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July 20-24

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Chief, Corrective Therapy, Veterans Administration

Invited to Participate

Bishop Sheen, Dr. John Whitehorn, Dr. William Bierman, Mary Switzer, Hester Crutcher.

Panel Discussions and Chairmen

Rationale for Activity Therapy, Dr. Knudson
Comprehensive Treatment of Paraplegic Patients, Dr. Munro
Current Social Service Approaches in Treatment, Mr. Cummings
Re-education of the Cerebral Palsy Patient, Dr. Phelps
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PRELIMINARY SURVEY AND ANALYSIS OF THE EDUCATIONAL AND PROFESSIONAL BACKGROUND OF THE CORRECTIVE THERAPIST

LOUIS F. MANTOVANO, Chief Corrective Therapy

Brooklyn VA Hospital

At the most recent meeting of the Board of Registry (Registry of Physical Therapy) of the Congress of Physical Medicine and Rehabilitation, the main topic of discussion, involved the request for inclusion of the ancillary therapies into the Registry.

The following ancillary therapy groups were invited to participate at the meeting: (a) Corrective Therapy; (b) Educational Therapy; (c) Manual Arts Therapy.

Mr. Leo Berner, past president, and members of the Medical Advisory and Executive Boards of the Association for Physical and Mental Rehabilitation determined the policy of approach to this problem of Registry inclusion. An outgrowth of this policy was an analysis of the educational and professional status of the association membership.

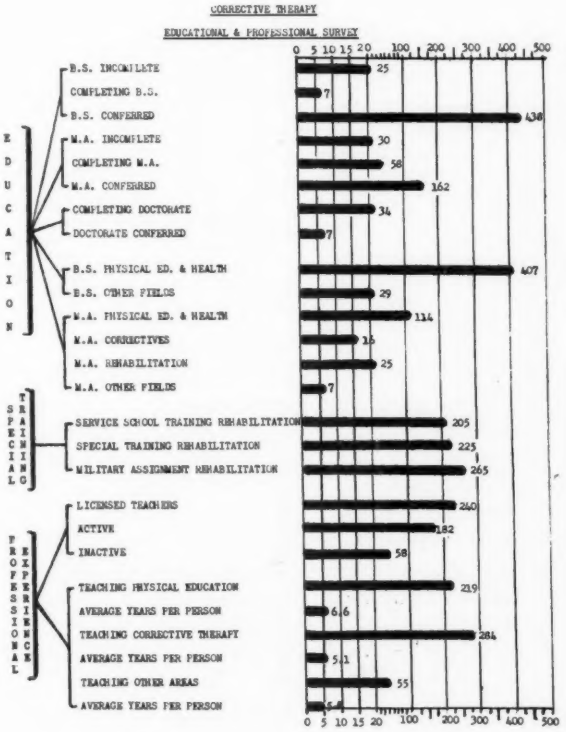
An educational survey questionnaire was developed by a sub-committee of the Education Committee of the Association. This questionnaire was mailed to the active membership and not to the thousands of memberships in our Association, now doing corrective work in schools and colleges throughout the nation, and the evaluation is based on 478 replies as of December 1, 1952. The resultant compiled data has been reviewed by the two previously mentioned Boards of this Association and accepted as significant of the present educational status of this group. The results of this education and professional status survey were presented as part of the Registry meeting report.

As a result of the educational survey the following data is now being made available to the association membership for review. The consensus of the groups reviewing the results of the survey, was that the information received met present requirements (1—A degree in physical education and 2—A year of clinical experience under direct supervision of a qualified physician) and indicates a direction further professional advancement should take. A year of graduate study and clinical training is under consideration by the Education and Professional Standards Committees. New personnel entering the field are found to be taking advantage of the academic and professional education curricula that are being offered in this therapy area at the college and university level.

The cooperative efforts of the association membership has made the results of this survey possible and the Committee appreciates their cooperation.

Survey Analysis

The following bar graph has been included to graphically illustrate the foregoing analysis. Such analysis clearly indicates the educational and professional growth of the ancillary therapy area of corrective therapy and is indicative of the sincere effort of such personnel to meet the growing professional needs for service to humanity.



On the basis of 478 questionnaires evaluated the following analysis was computed.

At the baccalaureate level 438 or 91.7% have degrees, 7 or 1.4% are in the process of completing degree requirements and 25 or 5.2% have not met degree requirements. The remaining 8 or 1.7% are not accounted for at this writing. Further significance at this level indicates that 407 or 93.1% majored in

Health and Physical Education, 30 or 6.9% majored in other fields of education and entered corrective therapy by completing their Masters degree in the Physical Education or Rehabilitation areas of study.

At the graduate level the data shows that 162 or 36.9% have completed degree requirements. A further breakdown of this group shows that 114 or 70.3% were granted degrees in Health and Physical Education, 16 or 9.8% have degrees in Corrective Physical Rehabilitation, 25 or 15.4% have degrees in Rehabilitation. The remaining 7 or 4.5% have degrees in other educational areas.

At the doctoral level 7 or 4.5% have been conferred degrees and 34 or 20.9% are studying in this area.

In the areas of specialized professional and technical training 49.2% of the personnel have participated in courses commensurate with the profession in schools conducted in the armed services, Veterans Administration, private clinics and other specialized areas.

Further analysis points to the fact that 240 or 54.7% of those receiving Bachelors degrees have taught school, 90.1% in the area of Health and Physical Education at the secondary or university level and have an average of 6.6 years of teaching experience. The remaining 198 or 55.3% have met educational licensing standards.

This tentative survey sets the pattern to be followed in recruitment of personnel in the future. Measures are being taken to complete the survey by obtaining questionnaires from the entire active membership. All new members are required to fill out a questionnaire, and must meet the qualifications of an Exercise or Corrective Therapist.

Acknowledgements

The Committee wishes to extend acknowledgment to the following people for their contributions to this Committee report: Mr. Dominic Harinello, Mr. Thomas Zwerlein, Mr. Edward Friedman, Mr. Andriolo and Mr. Vincent T. Circhio.

CORRECTIVE PHYSICAL EDUCATION PRACTICES IN THE PUBLIC SECONDARY SCHOOLS OF PENNSYLVANIA*

ELMER A. GROSS, Ed. D.

Associate Professor Physical Education

The Pennsylvania State College

American education is committed to a policy of providing opportunities for all children which will allow them to develop to the maximum of their capacities. The fulfillment of this policy for that group of children who are atypical is a real challenge to public education. A major contribution which physical education can make to the education of the atypical student is the provision through adapted activities for the expression of the basic drives, urges, and desires along socially accepted lines. The majority of states now require physical education to be taught in the school programs, and because of the large number of atypical students who enter school, it is necessary that the physical education program be extensive enough to take care of the individuals who need correction and control of their growth divergencies and handicaps. It becomes the duty of each physical education instructor to see that those in his care are given careful medical examinations for determining their conditions, and then to support a follow-up procedure in order to make sure that the defects are remedied as soon as possible. In this way the physical handicaps will be corrected, the standard of health will be raised, these students will be more educable, and consequently the endeavors in other subject areas of the curriculum will be permitted to progress and develop more effectively. With a program which really concerns itself with the growth and development of students, raises them to a higher level of ability, and removes the correctable physical handicaps, the physical education teacher is meeting the challenge of providing a program which allows each individual to develop to his or her maximum potential.

This is a report of the number of public secondary schools in Pennsylvania which were offering some type of corrective physical education for their atypical boys during the 1950-51 school year.

METHOD

The primary source of data for this report was information received from 844 of the 1,115 public secondary schools (a return of 75 per cent) in Pennsylvania by means of a questionnaire. The questionnaire was planned in such a manner that information pertaining to boys' corrective physical education practices was gathered in the areas of organization and ad-

*This report is a summary of a doctoral dissertation which was submitted to the Universary of Pittsburgh by the author.

TABLE I
Number of Secondary Schools Participating in the Study

School Enrollment	Schools Available for Study		Responses Used		Schools with Corrective Program		Schools with No Corrective Program		Schools Which Did Not Return Questionnaire	
	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Small										
1-199	315	28.25	199	63.17	20	10:05	179	89.95	116	36.83
Medium										
200-499	426	38.21	328	77.00	86	26.22	242	73.78	98	23.00
Large										
500-999	256	22.96	214	83.59	74	34.58	140	65.42	42	16.41
Very Large										
Over 1,000	118	10.58	103	87.29	40	38.83	63	61.17	15	12.71
Total	1115*	100.00	844	75.50	220	26.07	624	73.93	271	24.30

* Six secondary schools for girls not included.

ministration, program, facilities and equipment, and instructional staff. Of the 844 public secondary schools which returned the qustionnaires, 220 had corrective physical education programs. These are the 220 schools around which this report is centered.

ORGANIZATIONAL AND ADMINISTRATIVE PRACTICES

The following statements have been prepared as a summary for this section on Organization and Administration. The primary reason given for not conducting a corrective physical education program for boys in the secondary schools was inadequate facilities and equipment. The percentage of atypical boys among the male students of the 220 schools which offered corrective physical education was approximately nine per cent. All of the 220 secondary schools which offered some type of corrective physical education program were meeting the requirements of the School Laws of Pennsylvania which stated that the medical examinations must be given at least every other year. Approximately 58 per cent of the 220 secondary schools with corrective physical education provisions indicated that their corrective physical education instructors were never present at the student's medical examinations. More than 60 per cent of the 220 schools delegated the authority for assigning boys to the corrective physical education program to the school physician. The three most mentioned abnormalities for which schools conducted corrective physical education activities were abnormal posture, heart disturbances, and foot defects. Only 3.18 per cent of the 220 schools with corrective physical education had both male and female students in corrective physical education classes. The median size of the specially scheduled corrective physical education classes was 12. Eighty per cent of the 220 schools required their

TABLE II
Number of Secondary Schools with Various Types of Corrective Physical Education Provisions for Boys

School Enrollment	Number of Schools	Specially Scheduled Corrective Physical Education Classes		Adapted Activities in Regular Physical Education Classes		Adapted Activities Suggested Outside of Regular School Hours		Supervised Rest Program		No Program Provided	
		No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent
Small											
1-199	199	1	0.50	18	9.05	9	4.52	1	.50	179	89.95
Medium											
200-499	328	1	0.30	79	24.09	28	8.54	4	1.22	242	73.78
Large											
500-999	214	1	0.47	68	31.78	24	11.21	5	2.34	140	65.42
Very Large											
Over 1,000	103	17	16.50	26	25.24	16[a]	15.53	4	3.88	63	61.17
Total[b]	844	20	2.37	191	22.63	77	9.12	14	1.66	624	73.93

a Includes one overweight club.
b Many schools checked more than one type of corrective physical education provision.

atypical boys to have at least two periods of instruction per week in adapted activities and exercises in corrective physical education classes. The medium length of all corrective physical education classes was 45 minutes. Only 48 (21.82 per cent) of the 220 secondary schools were meeting the requirements of the School Laws of Pennsylvania to organize Advisory Health Councils. Approximately 46 per cent of the 220 schools did not inform parents of their corrective physical education programs.

PRACTICES PERTAINING TO PROGRAM

The following paragraph is a summary of the section on Program. Approximately 33 per cent of the 220 schools with corrective physical education did not hold conferences with their atypical boys before any activities were suggested. The three most frequently used activities in the corrective physical education program were informal exercises, games or game situations, and formal exercises. More than 90 per cent of the schools did not use any therapies in their corrective physical education programs. The letter grading system was most frequently used in the corrective physical education classes. The three most frequently used types of tests in the corrective physical education programs were medical examination by a physician; height, weight, and age; and testimony of the student. The types of cumulative records kept most frequently in corrective physical education were medical examination results, doctor's recommendations, and absences. Approximately 32 per cent of the schools were not using cumulative records.

PRACTICES PERTAINING TO FACILITIES AND EQUIPMENT

A brief summary of the section on Facilities and Equipment is subsequently given. Approximately 22 per cent of the 220 secondary schools with corrective physical education had special corrective rooms. The median size of these special rooms was 750 square feet. The majority of the schools conducted their corrective physical education classes in a certain area of the gymnasium segregated from the regular physical education students. More than 70 per cent of the 220 schools held their medical examinations of students in the nurse's office or first aid rooms in the school. The four pieces of equipment available for corrective physical education classes which were mentioned by 45 per cent or more of the schools were mats, jumping ropes, indian clubs, and medicine balls.

PRACTICES PERTAINING TO INSTRUCTIONAL STAFF

The following statements are a summarization of the information on Instructional Staff. Approximately 23 per cent of the 220 secondary schools designated one or more members of their physical education staff as corrective physical education teachers. More than 93 per cent of the schools had men instructors for their boys' corrective physical education classes. In 39 per cent of the schools there was no supervision of corrective physical education instructors. Of the 261 corrective physical education teachers in the 220 secondary schools, 54 per cent held bachelor's degrees and 43 per cent held master's degrees. More than 80 per cent of the 261 teachers of corrective physical education majored in physical education. The essential college courses taken by more than 50 per cent of the corrective physical education instructors were anatomy, mental hygiene, nutrition, physiology of exer-

(*Continued on Page* 59)

TABLE III

Physical Education Activities are Conducted

Types of Abnormalities	Small 1-199 (20 Schools) No.	Per Cent	Medium 200-499 (86 Schools) No.	Per Cent	Large 500-999 (74 Schools) No.	Per Cent	Very Large Over 1,000 (40 Schools) No.	Per Cent	Total (220 Schools) No.	Per Cent
Abnormal posture	18	90.00	47	54.65	37	50.00	26	65.00	128	58.18
Foot defects	7	35.00	39	45.35	29	39.19	24	60.00	99	45.00
Malnutrition	4	20.00	13	15.12	11	14.86	15	37.50	43	19.55
General debility and excessive fatigue	2	10.00	8	9.30	13	17.57	11	27.50	34	15.45
Strains, sprains, and fractures	6	30.00	26	30.23	27	36.49	8	20.00	67	30.45
Weak joints and stiff joints	5	25.00	13	15.12	15	20.27	7	17.50	40	18.18
Bowel elimination disturbances	1	5.00	1	1.16	1	1.35	0	0	3	1.36
Relaxed abdomen	1	5.00	6	6.98	7	9.46	11	27.50	25	11.36
Post-operative, accidents, and illnesses	6	30.00	19	22.09	23	31.08	12	30.00	60	27.27
Amputations	0	0	4	4.65	4	5.41	2	5.00	10	4.55
Respiratory disturbances	2	10.00	11	12.79	8	10.81	2	5.00	23	10.45
Nasal disturbances	1	5.00	6	6.98	3	4.05	0	0	10	4.55
Kidney conditions	0	0	1	1.16	3	4.05	2	5.00	6	2.73
Endocrine dysfunctions	0	0	5	5.81	3	4.05	1	2.50	9	4.09
Heart disturbances	12	60.00	40	46.51	34	45.95	15	37.50	101	45.91
Hernias	6	30.00	14	16.28	17	22.97	8	20.00	45	20.45
Paralyses	4	20.00	11	12.79	9	12.16	6	15.00	30	13.64
Emotional instability	4	20.00	12	13.95	9	12.16	4	10.00	29	13.18
Psychological handicaps	1	5.00	8	9.30	10	13.51	4	10.00	23	10.45
Social handicaps	4	20.00	12	13.95	13	17.57	5	12.50	34	15.45

A CONDITIONING PROGRAM FOR SEDENTARY MEN*

LAURENCE E. MOREHOUSE, Ph.D.
University of Southern California

A systematic conditioning program was designed originally at the State University of Iowa Medical Laboratories in 1938, for a small group of sedentary professors who felt a need for restoration of organic vigor. An enlarged program was established and studied in 1945 at the Harvard University Fatigue Laboratory at the request of administrative officers and business executives who attributed early fatigue in the office and at the conference table, and also otherwise unexplainable physical breakdowns, to pressures of work coupled with physical deterioration resulting from a prolonged sedentary period of life. The conditioning program presented here has been in operation in connection with the University of Southern California Laboratory of Applied Physiology since 1946. A similar program was studied at the Air Force School of Aviation Medicine Performance Physiology Laboratory, Randolph Field, Texas, starting in 1949.

The accomplishment of the following objectives in rehabilitation of sedentary debilitation through a systematic conditioning program has been observed to be possible:

1. Reduction of chronic fatigue as expressed by improved well-being and morale.
2. Increased efficiency as experienced by lessened expenditure of excess energy in the performance of a physical or mental tasks and improved organization of daily life activities.
3. Increased joint flexibility.
4. Reduction of minor aches, pains, stiffness and soreness.
5. Reduction of fat or gains in body weight.
6. Correction of remediable postural defects and improvement in appearance.
7. Increased muscular strength, endurance and coordination.
8. Improvement of mechanics of lifting, carrying, lowering and other work tasks.
9. Improved ability to relax and voluntarily reduce tension.
10. Reduction of symptoms, when such exist, as vasomotor instability causing dizziness on standing or sudden exertion, constipation and cathartic habituation, poor appetite, hypersensitivity and, in some cases, high blood pressure and positive signs of cardiac deterioration as shown in the exercise electrocardiogram.
11. Increased knowledge of safe levels of exertion in work and recreational activities.
12. Improved attitude toward health and lifetime maintenance of condition.

* This study was aided by the Committee on University Aid for Faculty Research, University of Southern California.

Administration of the Program—Candidates apply for admission to the program and submit a report of arecent medical examination. A conference is held regarding habits of work, rest, diet and exercise. Factors influencing emotions and well-being are discussed. Procedures for correcting deficiencies are planned cooperatively by the participant, his physician and the conditioning supervisor.

The conditioning program procedures are presented in the charts accompanying this report. These procedures are suitable for nearly all middle-aged men who are found by medical examination to be free from serious physical defects, but who are deteriorated physiologically as the result of a prolonged sedentary period of life. The procedures are modified when necessary to adapt them to participants with minor physical defects.

The charts are constructed to present the activity to be accomplished in each of the procedures during 18 progressive workouts. Also shown in the charts are instructions regarding repetitions and the weights to be used in the exercises. The numbers on the photographs indicate sequence.

A complete workout consists of progressing through the procedures as follows:

ORDER	PROCEDURE	MINUTES	ELAPSED TIME (Min.)
1	Mobilization (1-4) *	3	0-3
2	Abdominal Board (5-22)	3	3-6
3	Lateral Raise (23-32)	2	6-8
4	Knee Lift (33-58)	2	8-10
5	Posture Check (59)	1	10-11
6	Stride Jump (60-61)	2	11-13
7	Barbell Lift (62-74)	3	13-16
8	Pull Down (75-80)	3	16-19
9	Push Up (81-88)	2	19-21
10	Weigh (89)	1	21-22
11	Steam Bath (90)	5	22-27
12	Shower Bath (91)	3	27-30
13	Massage (optional) (92)	(30 minutes extra)	
14	Relaxation (93-102)	10	30-40

* Numbers in parentheses refer to numbered photographs in the charts.

The duration of a workout, not including a massage, is 40 minutes. This 40 minute workout period is designed to allow 20 additional minutes for dressing and travel so as to only require a total of one hour away from the office. The massage is optional and requires an additional 30 minutes.

MOBILIZATION

WORKOUT NUMBER	EXERCISE	REPETITIONS
1	SPINE ROTATION	3 TIMES TO EACH SIDE, ALTERNATING
2	"	"
3	"	"
4	SPINE ROTATION AND PELVIC FLEXION	3 "
5	"	5 "
6	"	"
7	SPINE ROTATION,	3 TIMES TO EACH SIDE, ALTERNATING
	PELVIC FLEXION AND	5 "
	ROTARY PELVIC FLEXION	3 TIMES TO EACH SIDE, ALTERNATING
8	"	"
9	"	"
10	SPINE ROTATION, ROTARY PELVIC FLEXION AND PELVIC EXTENSION	3 "
		5 "
		5 "
11	"	"
12	"	"
13-15	"	"

DESCRIPTION

SPINE ROTATION

PULL TO TWIST SPINE
FORCE NECK ROTATION WITH PALM

PELVIC FLEXION

TRUNK FLEXED FORWARD TO START
EXECUTE SHARP FORWARD BOWS FROM HIPS

ROTARY PELVIC FLEXION

PRESS FRONT KNEE AGAINST REAR KNEE
WEIGHT ON REAR FOOT
REST HAND ON CHAIR LIGHTLY FOR BALANCE
THROW CHEST DOWNWARD

PELVIC EXTENSION

HOLD SHOULDERS IN LINE WITH ELBOW
KEEP KNEES EXTENDED
FORCE HIPS FORWARD AND TOWARD WALL

ABDOMINAL BOARD

WORKOUT NUMBER	EXERCISE	REPETITIONS
1	REACH WITH ELBOW	3 TIMES TO EACH SIDE, ALTERNATING
2	"	4 "
3-4	"	5 "
4	REACH INSIDE OPPOSITE KNEE	3 TIMES TO EACH KNEE, ALTERNATING
5	"	4 "
6	"	5 "
7	REACH OUTSIDE OPPOSITE KNEE	3 TIMES TO EACH KNEE, ALTERNATING
8	"	4 "
9	"	5 "
10	CIRCLE, ARMS AT CHEST	3 TIMES TO EACH DIRECTION, ALTERNATING
11	"	4 "
12	"	5 "
13	CIRCLE, HANDS BACK OF HEAD	3 TIMES TO EACH DIRECTION, ALTERNATING
14	"	4 "
15	"	5 "
16	CIRCLE, ARMS EXTENDED	3 TIMES TO EACH DIRECTION, ALTERNATING
17	"	4 "
18	"	5 "

DESCRIPTION

START FROM ELONGATED POSITION WITH KNEES AND LOWER BACK NEAR BOARD

ROTATE USING ABDOMINAL MUSCLES

REACHING WITH ELBOW

FEEL STRONG ACTION OF ABDOMINAL MUSCLES WITH RESTING HAND

REACH INSIDE OPPOSITE KNEE

USE ABDOMINAL, NOT HIP FLEXOR MUSCLES

REACH OUTSIDE OPPOSITE KNEE

CIRCLE, ARMS AT CHEST

CIRCLE, HANDS BACK OF HEAD

CIRCLE, ARMS EXTENDED

LATERAL RAISE

WORKOUT NUMBER	EXERCISE	DUMBBELL WEIGHT	REPETITIONS
1	LATERAL RAISE	1	2 OF COMPLETE SERIES
2	"	1	3 "
3	"	1	4 "
4	"	2	2 "
5	"	2	3 "
6	"	2	4 "
7	"	3	2 "
8	"	3	3 "
9	"	3	4 "
10	"	4	2 "
11	"	4	3 "
12	"	4	4 "
13	"	5	2 "
14	"	5	3 "
15	"	5	4 "
16	"	6	2 "
17	"	6	3 "
18	"	6	4 "

DESCRIPTION

BACK FLAT AGAINST BENCH
BREATHE OUT WHILE LIFTING

THUMBS UP
PERFORM SLOWLY

PALMS UP
REST AFTER EACH RAISE

STRETCH UPWARD
USE FULL RANGE OF MOTION

COMPLETION OF SERIES OF 5 RAISES

KNEE LIFT

WORKOUT NUMBER	EXERCISE	REPETITIONS
1	KNEE LIFT	6 LIFTS WITH EACH LEG, ALTERNATING
2	"	8 "
3	"	10 "
4	DOUBLE KNEE LIFT	6 "
5	"	8 "
6	"	10 "
7	HIP LIFT	6 "
8	"	8 "
9	"	10 "
10	KNEE CIRCLE, FLEXED	5 "
11	"	8 "
12	"	10 "
13	KNEE CIRCLE, HALF FLEXED	6 "
14	"	8 "
15	"	10 "
16	LEG CIRCLE	6 "
17	"	8 "
18	"	10 "

DESCRIPTION

DRAW KNEE TOWARD CHIN SLOWLY

USE ABDOMINAL MUSCLES STRONGLY

KNEE LIFT

DRAW KNEES UPWARD AND RETURN TO EXTENDED POSITION SLOWLY

DOUBLE KNEE LIFT

HIP LIFT

KNEE CIRCLE, FLEXED

KNEE CIRCLE, HALF FLEXED

LEG CIRCLE

POSTURE CHECK

CHEST UP
PELVIS ERECT

STRIDE JUMP

WORKOUT NUMBER	EXERCISE	REPETITIONS
1	STRIDE JUMP	8
2	"	12
3	"	15
4	"	18
5	"	21
6	"	24
7	"	27
8	"	30
9	"	33
10	"	36
11	"	39
12	"	42
13	"	45
14	"	48
15	"	51
16	"	54
17	"	57
18	"	60

DESCRIPTION

START IN GOOD POSTURE
JUMP VIGOROUSLY TO STRIDE POSITION
RETURN TO STARTING POSITION AND REPEAT

BARBELL LIFT

WORKOUT NUMBER	EXERCISE	BARBELL WEIGHT	REPETITIONS
1	BARBELL LIFT	20 LB.	8
2	"	20 "	6
3	"	20 "	7
4	"	25 "	5
5	"	25 "	6
6	"	25 "	7
7	"	30 "	5
8	"	30 "	6
9	"	30 "	7
10	"	35 "	5
11	"	35 "	6
12	"	35 "	7
13	"	40 "	5
14	"	40 "	6
15	"	40 "	7
16	"	45 "	5
17	"	45 "	6
18	"	45 "	7

DESCRIPTION

CROUCH WITH BACK STRAIGHT
LIFT SLOWLY, USING LEGS

RISE TO TIPTOE
LOWER HEELS SLOWLY

PELVIS ERECT
MOVE SLOWLY

HOLD BAR DIRECTLY OVERHEAD
STRETCH UPWARD

HOLD BAR CLOSE
LOWER STRAIGHT DOWNWARD

PULL DOWN

WORKOUT NUMBER	EXERCISE	WEIGHT	REPETITIONS
1	PULL DOWN	20 LBS.	6
2	"	20 "	8
3	"	20 "	10
4	"	25 "	6
5	"	25 "	8
6	"	25 "	10
7	"	30 "	6
8	"	30 "	8
9	"	30 "	10
10	"	35 "	6
11	"	35 "	8
12	"	35 "	10
13	"	40 "	6
14	"	40 "	8
15	"	40 "	10
16	"	45 "	6
17	"	45 "	8
18	"	45 "	10

DESCRIPTION

STAND CLOSE TO BENCH SIT ERECT PULL BAR CLOSE TO BODY
GRASP BAR FIRMLY STRETCH FULLY USE LATISSIMUS DORSI MUSCLES

MAINTAIN FIRM GRASP PULL BEHIND HEAD RAISE SLOWLY
RAISE SLOWLY AND STRETCH TO CONTINUE, REPEAT 77, 78, ETC.

PUSH UP

DESCRIPTION

WORKOUT NUMBER	EXERCISE	REPETITIONS
1	PUSH AGAINST WALL	6
2	"	8
3	"	10
4	PUSH THROUGH DOORWAY	6
5	"	8
6	"	10
7	PUSH UP FROM TABLE	4
8	"	6
9	"	8
10	"	10
11	"	11
12	"	12
13	PUSH UP BETWEEN TWO CHAIRS	4
14	"	6
15	"	8
16	"	10
17	"	11
18	"	12

PUSH AGAINST WALL
KEEP HEELS ON FLOOR

PUSH THROUGH DOOR WAY
STRETCH CHEST MUSCLES

PUSH UP FROM TABLE
BODY STRAIGHT

PUSH UP BETWEEN CHAIRS
STRETCH SHOULDERS

WEIGH

RECORD:
DATE
WEIGHT
NUMBER OF WORKOUT COMPLETED

STEAM BATH

FINNISH ("DRY" STEAM) PREFERABLE

RESPIRATION NORMAL BEFORE ENTERING STEAM BATH

TEMPERATURE 175°F. IN DRY HEAT; 115°F. IN WET STEAM

EXPOSURE TIME - 5 MINUTES

SHOWER BATH

WARM SOAP BATH
FINISH WITH COLD WATER

MASSAGE

COMPLETE FACIAL AND BODY MASSAGE

RELAXATION

AFTER MASSAGE, LIE FLAT ON BACK, HEAD ON THIN PILLOW, ARMS AT SIDE, PALMS DOWN NOT TOUCHING BODY.
COMPLETELY RELAX GROUPS OF MUSCLES PROGRESSIVELY FROM FEET TO FACE, ESPECIALLY MUSCLES OF EYE AND SPEECH.
CONTINUE TO LET GO ON AND ON, PAST THE POINT WHERE THE MUSCLES SEEM TO BE PERFECTLY RELAXED.

RELAXATION

ASSUME COMFORTABLE POSITION
KNEES AND FEET MAY FALL OUTWARD

TO RELEASE TENSION IN LEGS:
ROTATE LEGS OUTWARD VERY SLOWLY
HOLD TENSED FOR 5 SECONDS
RETURN TO REST SLOWLY

TO RELEASE TENSION IN ARMS:
ROTATE ARMS OUTWARD VERY SLOWLY
HOLD TENSED FOR 5 SECONDS
RETURN TO PALM DOWN POSITION SLOWLY
REST

TO RELEASE TENSION IN BACK:
FROM HOOK LYING POSITION (35) RAISE SPINE SLOWLY FROM COCCYX GRADUALLY UPWARD TO 7TH CERVICAL
LOWER IN REVERSE PROCEDURE
SLIDE FEET SLOWLY TO REST POSITION

TO RELEASE TENSION IN NECK:
REST HEAD IN HANDS
PULL HEAD TOWARD CHEST VERY SLOWLY
LOWER HEAD IN HANDS VERY SLOWLY
SLIDE HANDS FROM UNDERNEATH HEAD AND MOVE TO REST POSITION

TO RELEASE TENSION FROM FACE:
MAKE FACE AS SHORT AS POSSIBLE BY SLOWLY DRAWING EYEBROWS AND CHIN TOWARD EACH OTHER
MAKE FACE AS LONG AS POSSIBLE BY SLOWLY DRAWING EYEBROWS AND CHIN AWAY FROM EACH OTHER
RETURN TO REST WITH FACIAL MUSCLES RELAXED AND EYEBALLS RESTING IN THE HAMMOCKS OF THE DEEP MUSCLES OF THE EYE
SLEEP IF SO INCLINED

AROUSE GRADUALLY AND STRETCH IN ALL DIRECTIONS
YAWN AND SIGH
REST IN A SEATED POSITION BEFORE STANDING
DRESS LEISURELY

Two relaxation procedures are presented in the charts. If the set of instructions first presented are not effective in producing complete repose, the second set, detailed instructions for progressive segmental release of tension, is followed. When release of tension techniques are learned, the first set of relaxation procedures become sufficient to produce complete repose.

All participants new to the program start with workout number 1 and progress through each numbered series. Progression is delayed if any part of a workout seems difficult or causes stiffness, soreness or other discomfort. The higher numbered workout is not attempted until the next previous one has been repeated in subsequent periods until it can be performed with ease. In this fashion progress is made in accordance with the physical capacity of the participant.

Generally, participants aged over 50 years do not progress past workout number 10.

Three precautions are given at the outset and are frequently reiterated by the attendant during workouts:

1. Keep the glottis open and do not hold the breath.
2. Perform exercises except the Stride Jump slowly.
3. Perform exercises with pelvis and the chest elevated.

Records of body weight and girths of abdomen and chest are made on a graph so that changes can be plotted periodically. Those overweight or underweight are provided with special charts which are used at home. Each morning the participant weighs himself using bathroom scales and records the weight on the chart. A line previously drawn on the chart indicates whether the morning weight is at the proper level. If the mark recording the weight is above the line, the food intake that day, especially during afternoon and evening, must be diminished. If the weight mark is below the line the food intake that day must be increased. In this manner gains at the rate of a pound a week and losses at the rate of not more than two pounds a week are accomplished. When the desired body weight is attained, daily weighing is continued for two weeks to establish the new habit of metabolic balance. Afterward, twice weekly weight checks are sufficient to aid in controlling normal body weight.

Participants work out three times weekly. Time of day for working out is a matter of convenience and does not appear to affect the results. If the workouts have an anorectic effect it is propitious to weight reduction to work out shortly before the evening meal.

Participants "graduate" from the program after completing the 18th workout. Usually about three months are required to complete the series, and usually within this time all of the objectives of the program have been attained. Upon graduation at the end of the 18th workout, two alternatives are offered for maintenance of condition: (a) continued attendance and repetition of workout number 18 twice weekly, or once during midweek is an activity involving vigorous exercise is performed on the weekend, or (b) twice weekly workouts at home.

A Home Program—The conditioning program presented here is planned to lead up to a home program for maintenance of condition, consisting of:

(a) *Weighing.* Control of body by prebreakfast weighing using bathroom scales to determine the daily need for dietary modifications.

(b) *Posture* (59). Frequent checks of pelvic and trunk alignment during standing and walking.

(c) *Rest, Relaxation* (93-102) *and Recreation.* Recuperative procedures planned as part of daily schedules.

(d) *Exercise.* Two 20 minute workouts each week consisting of:

1. Mobilization series including Spine Rotation (1), Rotary Pelvic Flexion (3) and Pelvic Extension (4).
2. Twelve Leg Circles (52-58) alternating left and right.
3. Fifty Stride Jumps (60-61).
4. Ten Push Ups Between Chairs (87-88).

Therapeutic Value of Procedures.—The therapeutic contributions of each of the condition procedures are listed as follows:

Mobilization (1-4):

1. Increase range of motion through relaxing contracted fascial ligamentous bands, and stretching thickened fibrous tissue.
2. Relieve aches, pains and hypersensitivity by alleviating pressure neuritis resulting from facial contracture and thickening.

Abdominal Board (5-22):

1. Correct postural visceroptosis and lordosis by stretching hip flexor muscles and anterior ligaments of the hip joint, and by strengthening abdominal muscles.

2. Improve venous circulation of lower extremities and splanchna.

3. Reduce gravistatic congestion in organs of cranial, thoracic, abdominal and pelvic cavities.

4. Relieve gravistatic compression of intervertebral disks.

Lateral Raise (23-32):

1. Correct postural round shoulders by stretching of ligaments and muscles of anterior shoulder joints and anterior thorax.

2. Increase tonicity and simple hypertrophy of anterior shoulder and chest muscles.

Knee Lift (33-58):

1. Increase tonicity of abdominal muscles.
2. Correct postural visceroptosis.
3. Relieve constipation.

Posture Check (59):

1. Correct postural kyphosis, lordosis and visceroptosis.
2. Improve appearance.

Stride Jump (60-61):

1. Increase cardiovascular endurance.
2. Improve vasomotricity.
3. Improve posture and appearance.
4. Warm up before Barbell Lift.

Barbell Lift (62-74):

1. Increase general muscular tonicity and simple hypertrophy of muscles of legs, arms and shoulders.
2. Correct lordosis by strengthening hip extensor muscles.
3. Learn mechanics of efficient lifting and lowering.

Pull Down (75-80):

1. Increase tonicity and simple hypertrophy of the trunk, shoulder and arm muscles.
2. Relieve gravistatic compression of intervertebral disks.
3. Relieve aches, pains and hypersensitivity by relaxing contracted fascial ligamentous bands and stretching thickened fibrous tissue.

Push Up (81-88):

1. Increase tonicity and simple hypertrophy of arm, anterior shoulder and trunk muscles.
2. Correct postural round shoulders by stretching of ligaments and muscles of anterior shoulder joints and anterior thorax.
3. Correct visceroptosis by increasing tonicity of abdominal muscles.

Weigh (89):

1. Appraise weight control program.
2. Record progress by enumerating number of workout completed.
3. Allow time for respiration to recover before Steam Bath.

Steam Bath (90):

1. Cleanse.
2. Soothe and allay irritability.
3. Relax and release tensions.

Shower Bath (91):

1. Cleanse.
2. Stimulate body circulation.
3. Cool the skin and depress after-perspiration.

Massage (92):

1. Dispose of waste products of muscle metabolism and remove edema through venous and lymphatic return.
2. Release muscular spasms.
3. Reorganize reflex disturbances of the vasomotor mechanism.
4. Stimulate the nervous system and reflexively induce relief of chronic fatigue and various aches and pains.
5. Induce a sense of comfort and well-being.

Relaxation (93-102):

1. Release tensions.
2. Increase ability to relax unneeded parts of the body during work, to relax between tasks, and to "let go" during rest and sleep.

It is a pleasure to thank Harvey Billig, Jr., M.D., F.I.C.S., for suggesting the Mobilization portion of the conditioning program, Herbert Daykin, who demonstrated the Mobilization procedure, and Terry Hunt, who suggested the Leg Circle and Pull Down exercises and assisted with the formulation of the program procedure. The assistance of Frank Jones, Ed.D., and Glenn McCormick, in the administration of the program and the laboratory work is gratefully acknowledged. Robert Zimmerman performed the photography and assisted in the construction of the charts.

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(See the Directory, Inside Back Cover)

SCHOOLS OF PHYSICAL EDUCATION AND THE TRAINING OF PHYSICAL MEDICINE AND REHABILITATION SPECIALISTS*

H. HARRISON CLARKE, Ed.D.
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Personnel with basic training in physical education have made significant contributions to the reconditioning of battle casualties during World War II and to the rehabilitation of veterans in V.A. hospitals and civilians in schools, colleges, and rehabilitation centers. The service provided has been so significant in the care of patients that it has been accorded recognition as a technical specialty in the medical departments of the United States Army and of the Veterans Administration. Furthermore, Physical education has been included as a phase of rehabilitation by the Baruch Committee on Physical Medicine and Rehabilitation.

Interestingly, the present utilization of physical activities and physical education personnel in medicine is not the first time this has happened. After World War I, physical education became the parent body of physical therapy; and still does contribute a large share of men and women for specialized training in this field. In fact, a number of prominent physicians now in physical medicine were prepared originally in physical education; the same is true of a number of prominent physicians now in psychiatry.

Schools of Physical Education

If such is the case then, and it most certainly is, there must be valid reasons for it. Why, in a quarter century, did physical education *twice* appear prominently in modern medical developments? Fundamentally, two reasons may be proposed to account for this phenomenon: (1) Medicine acquired an increased understanding of the values and uses of exercises and various physical activities in the treatment and after-care of patients; and (2) personnel prepared in physical education had the basic training essential to serve as technicians under medical direction and supervision. For the next few moments, let us look briefly at each of these factors. Such explanations are needed as background for a consideration of the role of physical education schools in the preparation of physical medicine and rehabilitation technicians.

Physical Activity in Medicine

A modern trend in medicine reveals the philosophy that treatment does not cease with definitive care but ends only when the patient is re-trained to live with any limiting disability he may possess. It is in this area of rehabilitation that the well-prepared physical educator has proven particularly valuable to medicine in its effort to meet the challenge implied in this expanded concept of its function.

No attempt will be made here to trace the use of exercise in medicine from antiquity to modern times, although that story is a fascinating one. Suffice it to say that, today in medicine, the following developments are clearly evident: increased understanding of the values of exercise in the general fitness and physiological improvement of the individual; recognition of the therapeutic values of certain types of exercise in the definitive and convalescent care of patients; necessity for teaching handicapped persons the essential skills, involved in ambulation and self-care; acceptance of the value of physical education and recreation activities in the treatment of individuals with various types of social and neuropsychiatric disturbances; need for proper body mechanics in the general carriage, functioning, and efficiency of the body; and relaxation values attained through appropriate selection and presentation of physical activities for those who are hypertensed.

As will be readily seen below, the well-prepared physical educator has the basic training, possesses the necessary ability to teach skills, and is adjusted personally for the type of work required. These factors should be stressed as consideration is given to the specialized training needed to fit such personnel to function effectively on the team of medical technicians required in modern rehabilitation practices.

The Well-Prepared Physical Educator

In an earlier study by Clarke and Elkins,[1] the training of physical educators for reconditioning and rehabilitation was evaluated. In that study, it was emphasized that this training has been and is primarily aimed at training teachers and supervisors of school and college physical education. While the nature and thoroughness of this training vary among colleges and universities, it is essential to understand the com-

*Presented at the Sixth Annual Scientific and Clinical Convention of the Association for Physical and Mental Rehabilitation, at Milwaukee, Wis., July 10, 1952.

[1] H. Harrison Clarke and Earl C. Elkins, "Evaluation of Training of Physical Educationists for Reconditioning and Rehabilitation," *Archives of Physical Medicine*, 29:99-107 (February) 1948.

petencies of well-trained physical educators, not only to know their immediate capabilities but as the starting point for their subsequent training as technicians in medical installations.

Today, school and college physical educators must be able to meet multiple objectives in education. Following World War I, and continuing to the present, a consistent effort has been made to align physical education with total school purposes. Although they have been variously stated, physical education recognizes three major objectives: physical fitness, social efficiency, and recreational competency. Methods, materials, and procedures have been developed to realize these objectives based upon sound philosophical physiological, psychological, and sociological principles. As a consequence, the modern physical educator possesses a broad preparation in many fields and has great versatility in the application of his activities and methods to the education of children, young people, and adults.

As previously inferred, many of the understandings, skills, and abilities developed in the proper preparation of physical education teachers are of special significance to physical medicine and rehabilitation, and account, in part, for the twice repeated utilization of such personnel in modern medical developments. The following itemization indicates the nature and extensiveness of this basic preparation:

1. Familiarity with certain sciences fundamental to an understanding of physical medicine and rehabilitation, especially biology, anatomy, kinesiology, physiology, physiology of exercise, and psychology. Some institutions also include physics and/or chemistry.

2. Knowledge of the physical conditioning process so prevalent in the preparation of athletic teams for competitive efforts.

3. Recognition of the need for bodily strength and endurance and the ability to recognize those with deficiencies in these qualities and to design effective follow-up procedures for their improvement.

4. Concept of the normal growth paterns for boys and girls, with ability to recognize (but not diagnose) deviations from these patterns.

5. Knowledge of the learning process and the effective application of physical education methods to the growth and development of the individual.

6. Some understanding of corrective exercises, and the adaptation of physical activities to the needs of handicapped individuals.

7. Pronounced ability to teach motor skills of many kinds, a competence which may readily be applied to teaching the new skills of ambulation and activities of daily living.

8. Ability to administer and interpret the results of physical education tests, designed to evaluate the strength, exercise tolerance, motor fitness, athletic ability, and sports skills of the individual.

9. Orientation to statistical process essential in evaluating and conducting certain types of basic research.

10. An understanding of the place of recreation in life, including its need in maintaining emotional stability and in providing a means of living a wholesome lfe.

11. Ability to provide leadership and instruction in many sports and recreation activities.

12. Some knowledge of the hypertensed state and the contributions of appropriate physical education activities to aid in inducing relaxation of the neuromuscular system.

13. Information pertaining to training rules and proper living habits in healthful living.

14. Recognition of the need to work with school physicians in certain phases of the physical education program.

15. Competence to devise, administer, and supervise all phases of school and college physical education.

In addition to the significant features of value for physical education and rehabilitation noted in the preparation of physical education personnel, mention should also be made of the type of individual entering physical education. In the first place, the new emphases in rehabilitation are attracting men; while the earlier emphases in physical medicine appealed more to women. The fact that men are entering the field in large numbers as therapists is undoubtedly desirable especially in the Army and Veterans Administration hospitals where patients are mostly men and male leadership and motivation are frequently advantageous.

Furthermore, the physical and personality characteristics of these men, in general, are superior to other college men. From many studies, it is clear that students majoring in physical education as a group are stronger, more physically fit, and athletically inclined than the average for other students. In somatotype, they are dominantly mesomorphic with some tendency toward ectomorphy. Also, these men as a whole are socially well adjusted. The average on Washburne's Social Adjustment Inventory for three successive junior classes in physical education at Syracuse University, for example, was at the 75th percentile based on national norms for college students.

In general, then, the men entering rehabilitation from physical education should have the basic training from which competent therapists may be trained; should be able to stand the vigors of instruction in a frequently vigorous physical activity program; and should have the personality to work well with pa-

tients, colleagues, and superiors.

Training of Physical Educators for Rehabilitation

As was clearly pointed out in the Clarke and Elkins report, the training of physical educators has not been and is not designed to prepare technicians for work in physical medicine and rehabilitation, but, rather, to provide instructors for schools and colleges. Consequently, it is logical to conclude that graduates of physical education schools should receive technical training for this field, whether it be in hospitals or rehabilitation centers, or, it should be added, in schools and colleges.

The adequately prepared physical educator needs additional study of anatomy, kinesiology, physiology, and physiology of exercise in order to relate these materials to pathological conditions. He needs to understand the pathology of the various disabilities he will encounter and the effect and proper utilization of physical activity in surgical, orthopedic, neurologic, and psychiatric cases. He must be thoroughly acquainted with the modalities of exercise, special skills, adapted sports, aquatics, and recreational activities. He should have extensive supervised clinical experience with patients in hospitals and rehabilitation centers and with deficient and handicapped students if he desires to serve in educational institutions.

This type of study is not generally provided in present college and university majors in physical education. Consequently, a specialized program of study to prepare physical educators as therapists in rehabilitation should be devised. It is hazardous for any one person, especially a layman, to indicate what this training should be, as such training programs should be worked out by physical educators familiar with teacher preparation problems in collaboration with representatives from physical medicine and rehabilitation. But, before even this can be done properly, the duties of the physical educator in rehabilitation must be defined. Pending such action, however, this physical educator is willing to make pertinent suggestions relative to desirable training practices for this purpose. Certain criteria are, therefore, proposed, as follows:

1. This training program should be of a postgraduate nature. Trainees should hold the bachelor's degree with a major in physical education. Thus, he would be a properly qualified physical educator with the understandings, abilities, and skills outlined above.

2. Inasmuch as undergraduate requirements in physical education vary from institution to institution, the following prerequisites should be established for entrance into training as a physical education teacher in physical medicine and rehabilitation:

   a. Biological sciences, including: biology, anatomy, physiology, and physiology of exercise (chemistry and/or physics desirable).
   b. Psychology
   c. Hygiene, including: personal hygiene and mental hygiene.
   d. Technical training in physical education, including: measurement and evaluation, physical examinations, corrective and body development exercises, normal growth patterns of children, nature and function of play, athletic training and first aid, programs of physical education, recreation leadership, camping, administration of physical education, and skills in a great variety of physical activities and coaching techniques.
   e. Professional education, including: principles of education, educational psychology, methods of teaching, and practice teaching experience.

3. Subsequent teaching programs for physical education technicians should be based squarely upon these prerequisites. Duplication of these materials, other than for brief review purposes, should not be permitted. Technical training in this area, then, should progress from this point, presenting the special application of physical education activities and methods to rehabilitation.

4. Certain courses in the training program, especially pertaining to pathological, neurological, and psychological conditions should be taught by qualified clinicians, preferably practicing physiatrists.

5. Likewise, qualified physical education personnel with competence in the application of their field to physical medicine and rehabilitation should participate in this training program. Such individuals are especially qualified to deal with the materials and methods of physical education, as follows: apply the physical education process of teaching motor skills to problems of ambulation and activities of daily living; provide knowledge of conditioning to the development of the strength of weakened muscles and the endurance of the de-conditioned body as a whole; contribute his understanding of the value of recreation in life; introduce the method, motivation, and application of education to increase the effectiveness of rehabilitation practices; indicate ways by which physical education activities may be adapted to handicapped conditions; and apply physical education tests and methods of research to rehabilitation.

6. Institutions providing training for physical education technicians in rehabilitation should have opportunities for extensive clinical experience. This experience must be thorough and sufficiently varied to include the types of pathological and neuropsychiatric cases encountered in rehabilitation. All clinical work in hospitals and rehabilitation centers should be under the supervision of qualified medical personnel, preferably doctors of physical medicine.

With training criteria proposed and with the suggestion that training content ultimately be determined through collaboration of physical education and medical personnel, the final question is: What type of institution should do the training? The answer this observer wishes to make is: Any institution that meets the criteria. The issue of whether physical education schools can do this will then be considered.

The Role of Physical Education Schools in the Preparation of Rehabilitation Personnel

Formal school "corrective" programs have been in existence in physical education since the Civil War. Growing out of the Swedish exercise system, specialized programs, facilities, equipment, and personnel have been used for years to correct postural defects, alleviate various organic conditions, provide desirable skill instruction for the handicapped, and strengthen those with weak musculatures. Special courses for the training of physical educators for this purpose have been common in teacher-training courses of study.

Also, physical educators have contributed a great deal to therapeutic knowledge. Many textbooks have been written by such leaders in the field as Rathbone, Stafford, Metheny, Lee and Wagner, Hawley, Kelly, and Stone. A number of physical educators have added considerably to the research of this field. Certain ones are currently associate members of the American Congress of Physical Medicine; these and others have published in medical journals, including the *Archives of Physical Medicine*.

From these factors, it may be argued that physical education has achieved some status in rehabilitation and has a professional responsibility in this field. Actually, the work done by physical education therapists is an extension of the same type of service provided for nearly a century in schools and colleges. The greatest change in the situation is that nearly the full range of physical education activities is now utilized as some point in hospital, convalescent, or rehabilitation care. This development also places responsibility for it squarely before the responsible physician in each instance. The reverse is usually the case in school and college "corrective" physical education: the physical educator seeks the aid of the physician as needed, rather than working directly under him.

As a consequence, it may be fair to suggest that the responsibility for the training of physical educators as therapists in physical medicine and rehabilitation is a joint one. Reference to the need for collaboration has been made before in this paper. With the field properly defined, with the training program adequately designed, and with criteria for training institutions established, those physical education schools that can meet such standards should be permitted to apply for recognition.

While numerous problems relative to the status and future of physical education technicians are being solved, physical education schools, sensitive to the needs of this field, have established training programs. Since 1948, Springfield College has provided a full year sequence of graduate study in "physical education and recreation in rehabilitation," leading to the master's degree. Other graduate departments of physical education offering similar curricula are Columbia University and New York University. Undergraduate programs in this field have been developed at Pepperdine College, Ithaca College, and University of Kentucky.[2]

The Committee on Adapted Physical Education, American Association for Health, Physical Education, and Recreation, has proposed a graduate program of study for personnel in this field. This sequence is intended for physical educators in schools and colleges. Those institutions following the Committee's proposals, however, have found that Veterans Administration hospitals and rehabilitation centers have engaged their graduates as the only source of supply presently available. These institutions are sincere in their effort to meet a professional need related to their field, which involves many of their professional people. A definite dilemma exists until such time as recognized standards for the training of physical education technicians in hospitals and rehabilitation centers are established.

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[2] Karl K. Klein, "Current Curricula Related to Professional Education of Corrective Therapy." *Journal of the Association for Physical and Mental Rehabilitation*, 5: 16-19 (September-October) 1951.

EDUCATIONAL QUALIFICATIONS SURVEY

The Report of the Analysis of the Educational and Professional Background of the Corrective Therapist, which appears in this issue, emphasizes again the duty of ALL MEMBERS to continue their cooperation, by sending in their educational qualifications at once. If you have not yet sent in one of the questionnaires, a postal card request to Lou Montovano will bring you a copy by return mail. All new active members will receive the questionnaire with the membership card from Stanley Wertz.

This survey will be continued, until the qualifications of all members have been recorded. The completion of this survey is every member's responsibility. When your qualifications change, they should be reported at once. Your cooperation in this vital Association policy is again requested by your officers.

NECESSITY FOR CLEAR COMMUNICATIONS BETWEEN PSYCHOLOGY AND OTHER DISCIPLINES AND PROFESSIONS ENGAGED IN REHABILITATION *

HAROLD HILDRETH, Ph.D.
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Veterans Administration, Washington, D.C.

The film we have just seen (VA film on corrective therapy) is one which numbers of you have seen before. A few of you may have seen it several times. Despite this fact our Panel felt that it would be good to start off this session with a showing of this very excellent film. It is closely related to the topic of our discussion, i.e., the role of psychological theory and technique in rehabilitation. Also, it starts us off by sharing a common experience, a *non-verbal* sort. The film defines for us the type of problems we are talking about and around during this discussion. It is a non-verbal definition of our "area of discourse," and it illustrates the difficulties of communication.

Psychological techniques are closely related to psychological theory; psychological theory is inevitably and inextricably bound up with problems of communication. As psychologists we know that discussions cannot be fruitful unless we are reasonably sure we are talking about the same thing. To assure better communication between us here we thought it best to start from a common observational experiential baseline, such as the film provides.

And now to get on with the discussion. The behavior of the patient in the film, and of those dealing with him, is something with which most of us are very familiar. We *saw* what was going on, we *understood* it, it was *known* and *familiar* behavior. But this knowledge is something "in our bones," so to speak, rather than something about which we can talk easily and freely. We *know* what was going on in the film, and we *know* that we know, but when we begin to *describe* it and put it into words we begin to fumble and get confused and frustrated.

The proof that we do indeed know what was going on with the patient lies in the fact that if we ourselves were placed in similar situations we would know what to do. That is, we could react adaptively and effectively, and without confusion. The proof of the fact that we do *not* know to *talk* about these experiences lies in the confusion and frustration which we experience when we try to do so.

The lack of adequate language for communication on a *verbal* level, about experience on a *non-verbal* level, is the greatest single block to more effective work on the part of all of us. This is the communications problem. Without adequate language for communication none of us can transmit fully to each other the information we gain about a patient from observing his behavior and from watching his responses during our contacts with him. As the number of persons dealing with a given patient increases, and as the types of specialized effort expended on his behalf are increased, it becomes correspondingly important that communication be full and adequate. The separate component efforts made by several persons with different specialized techniques, cannot have the cumulative effect that they should unless there is adequate communication between the several individuals. To put it differently, the multiplicity of therapeutic media now available, and utilized in the rehabilitation process, fall short of the therapeutic effect which might be expected of this cumulation, because of inadequate communication. This is not the only factor, but I am convinced it is the major factor, which now blocks and slows the rapid increase in total therapeutic efficacy which should be taking place. To use a physiological analogy, the circulatory system is too small for adequate distribution, transmision and utilization of the many nutritional elements poured into it.

Because we lack the language fully to exchange information with each other, our own individual efforts with individual patients are less effective than they would otherwise be. We cannot profit fully from the experiences and knowledge of our co-workers. But more than this, we cannot move ahead as rapidly as otherwise in the furthering of *our own* individual skills and understandings. Literally, we cannot communicate sufficiently well with *ourselves* to consolidate and put to increasing use our own daily accretions of experience. We move ahead, but in rather a stumbling way, because we lack *adequate theory*, which in turn is a function of language and communication.

There are two further difficulties stemming from this lack of adequate communication tools. One is the difficulty in training new people coming into the field, because we cannot transmit understanding

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as rapidly and efficiently as we would like. The other is the very basic difficulty of communicating adequately with the patient, and enabling him to communicate adequately with us.

This is the state of affairs in which we find ourselves at the present, and it is not a happy one. It is particularly unhappy for the psychologist because he feels unique responsibility in this area. Language clearly and inescapably is a psychological function, and its study a definite responsibility of the psychologist. He can no more dodge it than a physician can ignore the heart as an organ of the body or a chemist can ignore carbon as an element of nature.

Communication, and the language which is necessary for communication on a symbolic or verbal level, has an added importance for the psychologist. He knows it is intimately tied up with theory, with conceptualization, with the establishment of scientific laws and principles. Earlier I mentioned that the major factor in our present degree of therapeutic inefficiency was a lack of adequate language and communication. One reason for this conviction was the recognition of this close relationship between language and scientific theory.

Language, i.e., verbal language, is not of course the only means of communication. In the physical sciences mathematics is of paramount importance as a means of communication. But in dealing with behavior and with human beings there is no escaping the prime importance of verbal language. In order to be able to talk adequately and precisely about human behavior it is necessary to have certain basic term the meaning of which is well understood. These terms must be definable in simpler and also easily-understood terms. Eventually they must be definable in non-verbal or operational terms. And unless and until we can thus trace back and define in simple unmistakable ways all the major and basic terms we use in communicating about behavior, we do not have the tools for adequate communication.

Much psychological research is directed toward the goal of defining, and refining, basic concepts and terms. The end result of this process is the investing of certain words with specific clear-cut meanings, rendering them more useful for the purposes of communication. In a way and in one sense it is not much to say that the end result of psychological resarch, particularly that research directed toward development of psychological theory, is the simplification and clarification of basic terms for the purpose of communication. For these reasons the psychologist must, as you see, concern himself in a most serious way with the problems of language and communication, and much of his effort in reasearch and theory development is in the direction of discharge of this responsibility.

So far we have been speaking of communication as it referes to exchange of information between professional persons dealing with patients. The primary medium for such communication is language, as in the physical sciences it is mathematics. The relation between language and theory is very close.

But there is another form of communication to which we should give attention here. This is the matter of communication between therapist and patient—both ways, and with particular reference to non-verbal communication. How does the patient communicate with the therapist, and how can the therapist communicate with the patient, in non-verbal ways? This is an area in which the corrective therapist has as much if not more understanding and skill than any of us.

We know that patients do communicate in non-verbal ways, whether by intent or not. Perhaps we should say they *attempt* to communicate, because communication is completed only when the patient's behavior and its significance is read and understood by the therapist. Constantly, and almost without interruption, a patient's behavior is communicating information to us, if only we can read and understand it. Placed in new situations, subjected to new stimuli, his responses very often become most revealing and significant.

Conversely, the corrective therapist frequently can communicate with the patient in most effective ways on a non-verbal level. No one who has watched the skilled men in your field work with patients can doubt that copious communication of therapeutic significance takes place with patients.

This is one of the reasons why psychologists feel close to corrective therapists and why the future will see an increasingly close work-relationship between the two groups. I know that many psychologists are as aware as you are of the loss which takes place when the valuable insights *you* gain cannot fully be transmitted to others, and the insights gained by others in their special approaches to the patient cannot be adequately transmitted to *you*, for utilization in your very specialized type of contact with the patient. The absence of this communication bridge is recognized by the psychologist as one of his responsibilities. I do not mean to imply that there is no communication at all, but rather that we are in the pontoon rather than the cantilever stage.

There is an unfortunate tendency in some quarters to deprecate the importance of non-verbal communication and to consider it a relatively minor matter. This is a mistake. Non-language communication is the first and most basic form of communication. In the animal world, and in human beings before the advent of language, it is all-important. Even in the most highly cultured human beings it still remains a most important means of communicating with one's fel-

lows and of maintaining close contact with reality. In fact, a tendency toward complete abolition of non-verbal communication, with exclusive reliance on language, veers dangerously close to the psychotic if it is not indeed a definition of one form of pathology.

With *normal* human beings, then, non-verbal communication plays a daily and important part in their lives and in the satisfactions which they enjoy. For those wrestling with scientific problems it may be less important during those periods of intense effort when a scientist is endeavoring to forge out language for fuller verbal communication.

But for persons who are *not* normal the area of non-verbal communication is exceedingly important. In fact, it is a fair and fascinating hypothesis that the farther an individual depart from his normal state, whether in a physical or mental direction, the more important non-verbal communication becomes to him during his non-normal period. One of the finest physicians I have known sat for hours at the bedside of a dying patient, and friend, holding his hand tightly—and *saying* nothing. Who has seen a young boy returned from a combat area—with wide frightened staring eyes and almost mute—who did not feel within himself the strongest urge toward some form of non- verbal communication, some way to transmit to him the tender touch of therapy? Let no one deride the value of non-verbal communication with patients.

The importance of non-verbal communication, then, is such as to make it a field of study in its own right, for it comes close to being co-extensive with the study of the meaning and significance of human behavior itself. Added to this is the problem of how to talk *about*, how to communicate about, this field of non-verbal communication, and we are brought back to our starting point. On both levels, and with both problems, the psychologist is deeply concerned. It is in these areas that the corrective therapist also works, and like the psychologist feels considerably frustrated. This frustration, however, is and will be the motivating core for some of the finest future developments in both our fields. We are *not* comfortable, because we don't have the *answers*, but we share a bit of divine discontent in this matter which is driving us toward the eventual possession of those answers.

CIVIL SERVICE CLASSIFICATION STANDARDS FOR CORRECTIVE THERAPISTS*

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In the years that I have been in this work, I have found that there is a considerable amount of misunderstanding as to how jobs are graded or how individual jobs are classified and salaries determined. Because of this fact, I am particularly pleased to have the opportunity to talk to you for a few minutes on the subject of Civil Service classification standards for Corrective Therapists.

This discussion should be of particular interest to the federal employees present; however, since all of you are tax payers, I am sure that you will have at least a passing interest in knowing how the grades and salaries of most federal jobs are determined. Many employees look upon position classification as a mysterious process. You may be amused to know that some employees have gone so far as to claim that we position classifiers are a group of mystics who sit in a dark and incensed room and determine grades and salaries by looking into a crystal ball.

Positions of Corrective Therapist or Exercise Therapist, as they are known in the federal service as well as over a million other positions, are classified under the provisions of a specific statute enacted by the Congress of the United States. This statute is known as the Classification Act of 1949 and it superseded an act of 1923, therefore it is not a new process.

The Classification Act of 1949 establishes, among other things, three particular principles or provisions to which I would like to refer this morning. These are very imoprtant provisions. Actually, an individual classification action can only be understood if it is considered against these three basic provisions. They are: (1) *that there shall be equal pay for substantially equal work*. Now, contrary to much opinion, that does not only mean that identical positions will be classified to the same grade wherever they are located geographically; it also means that there shall be equity between the various occupational fields. For example, Corrective Therapy as opposed to bacteriology, as opposed to legal jobs, as opposed to engineering jobs. In such comparisons there must also be equal pay for substantially equal work. The second provision which

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is also very important, is that *positions shall be classified in accordance with or consistent with standards published by the civil service commission.* Obviously, if we are going to have equity we must have standards or a yardstick to determine the grades of individual positions. The third provision, is that *the basis for the classification of an individual position shall be the duties and responsibilities of that position and the qualifications that are required by those duties and responsibilities.* Let me repeat these three provisions for emphasis. (1) Equal pay for substantially equal work; (2) Positions shall be classified in accordance with or consistent with standards published by the Civil Service Commission; and (3) The basis for the classification of an individual job shall be the duties and the responsibilities of that job and the qualifications required by those duties and those responsibilities.

The qualifications required by the duties and responsibilities is an area of considerable misunderstanding. All too often, individual employees submit proposals for higher grades for their positions solely because they have acquired additional qualifications through education or experience. Unless an employee has actually assumed duties and responsibilities of a higher level and the position has been classified to a higher level by reference to published position classification standards, it is not possible under the Classification Act of 1949 to approve the position in a higher grade.

There is a considerable amount of discussion going on at the present time as to the merits of two approaches to this qualifications question. In fact, I had a little talk this morning with Dr. Fowlkes on that subject. The two approaches are: classifying positions solely on the basis of qualifications or on the basis of the duties and responsibilities and only those qualifications required by such duties and responsibilities. Regardless of the merits that may exist with respect to the first system mentioned, the fact must be accepted that the law provides the basis upon which we must classify these positions. To do otherwise would be illegal and improper.

Standards, as you will see, play a very important part in the classification of positions. And, contrary to some thinking, standards are not developed in a vacuum. Standards are developed by the Civil Service Commission as is required by the law. However, Commission representatives work very closely with the position classification staffs as well as the occupational specialists of the federal agencies having such positions. For example, when the standards for exercise therapists were developed, a commission representative worked with Dr. John Davis as well as with the representatives of the Classification Service in the Central Office of the VA. They examined a representative number of jobs in the field service of the VA and in other federal establishments. After they had completed their fact finding process, the standards were developed in draft form. These drafts were circulated and were commented on by the agency specialists as well as the classifiers of the several federal agencies. Only then and after considering the several viewpoints were the standards finally published for application. Keep in mind that the Commission has the responsibility for maintaining equity across the various occupational fields. Equity on a horizontal basis as well as equity on a vertical basis as between the different levels of work in the same occupational field is a must in the development of position classification standards.

Qualification standards are developed in much the same manner. By way of explanation, a qualification standard is a standard or a yardstick used to measure the education and experience of an individual to determine his fitness to occupy a position which position has been classified by reference to position classification standards. As you see, we have a standard for the individual and a standard for the job. They are frequently confused.

Position classification standards are broken down into three principle parts. The first part is the series or standard definition. This briefly sets forth the coverage of the standard and the elements which differentiate, for example, the work of an exercise therapist with that of a physical therapist or other occupational fields. I would like to read you the definition of the Civil Service Commission standard for exercise therapist. It is rather short.

> "This series includes all classes of positions, the duties of which are to advise on, administer, supervise, or perform professional work involved in the application of medically prescribed adapted physical exercise to the rehabilitation or health level maintenance of other than critically ill patients."

This is a new series composed of positions which have previously carried titles such as "corrective therapist," "corrective rehabilitation therapist," and "physical reconditioning therapist." The essential requirement for classifying a position to this series is the responsibility for performing duties that involve a knowledge of physical exercise adapted for subacute convalescent and chronically ill patients, to prevent physical deterioration, to promote mental or muscular tone, to strengthen and develop muscles used in substitution by the physically handicapped and to inculcate self-care, personal hygiene and mobility routiness to aid the handicapped to meet the physical demands of daily living. That is a brief defi-

nition or description of the standards for Exercise Therapist.

The second part of the standard is known as the "Characteristics of the class." This part of the standard differentiates between the different levels of work and it also sets forth the factors that are used in the classification of positions, that is, such factors as the nature and purpose of work, the scope and effect of work, the supervisory control, the work relationships and the nature and scope of recommendations, decisions, commitments and conclusions.

The third part is known as the qualifications statement and this statement is designed as a broad general statement for the use of operating and personnel people to determine the general qualifications required and an individual's fitness to occupy the position. It is also used as a sort of a "jumping off" point for the development of the more definitive qualification standards.

The Civil Service Commission standards provide grade 5 as the entrance grade for the professional therapist. Grade 5 has a salary range of $3410.00 to $4160.00 per annum. At this grade, the therapist must have a knowledge of the theory and methods of physical exercise routines to physical and mental conditions characteristic of patients requiring rehabilitation or health level maintenance; ability to administer exercise therapy in accordance with the physician's prescriptions; ability to cope with usual treatment situations or work relationships in exercise therapy. He performs, as I said, the full range of corrective therapy work, but he does so under relatively close supervision and that is particularly true with respect to the more difficult types of treatment. In such cases, therapists of higher grade outline the methods to be followed and they check the progress that is being made.

The next higher level is that of exercise therapist, grade 7, with a salary range of $4205.00 to $4955.00. The job at grade 7 may be one of three different types. It may be an individual therapist with no supervisory responsibility, it may be a therapist in charge of a unit of a larger therapy department, or it may be the responsible head of a therapy department at an institution where there is a very small work volume. At this grade, we find the most advanced and difficult work of the therapist who has demonstrated skill and experience of a kind and quality that will permit him to perform such work with a minimum of technical guidance. He must be able to cope with the unusual treatment situation. He must be the man the physician looks to when he has a difficult problem that needs extensive experience and training.

The next grade is that of exercise therapist, grade 9, with a salary range of $5060 to $5810. This grade is appropriate only for a supervisory type of job. It may be the supervisor of an organizational segment of a very large therapy department where it has been necessary to break up the work into several units. The units may be on the basis of the type of patient or because of the physical arrangement of the hospital, or it may be purely on a work load basis. On the other hand, this grade may be proper for a therapist in charge of the total exercise therapy work for the hospital. At grade 9, the therapist must have all of the knowledges and skills of the therapist at grade 7, but in addition he must have those added skills that are required to supervise and direct the work of other professional therapists and cope with the problems of patient treatment and work relationships. In any event, we find a work situation that is more complex than would be the case where all treatment is performed in one location under very close supervision of the head of the unit.

We have very few jobs in the VA that will support grade 11, which grade has a salary range of $5940 to $6940. Jobs at this grade would be located at a very large hospital where there is work that is sufficiently diversified and in sufficient volume that it is necessary to break down the organization in to several units. If the unit heads could be properly classified at grade 9, it would then be possible to superimpose a head over the top of that organization in grade 11. We have a few situations where we use the even grades of 8 and 10, but I don't know of any place we have used grade 6. There may be some.

I have outlined these situations or requirements in a rather general way because there is such a great variety of work situations that it would be impossible to adequately define them all in a discussion of this kind. I would urge that those of you who are in the federal service contact your personnel officers and they will make available to you the classification standards for exercise therapists. I would suggest that you read these standards very carefully. Read them from cover to cover. Do not look for magic words. Consider the job in its total setting. You have heard other speakers talk about treating the whole man at this morning's and yesterday's sessions. Treat your whole job. Consider the whole standard. That is very important. Then when you prepare your position descriptions and submit them to us, give us the complete picture. Give us the work relationships that exist. Give us the types of cases that are being handled. Furnish us information on the type of organization that you have. Give us the total story. Then, and then only, can we classify your positions as is contemplated by the law and by the standards. Thank you.

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"From Other Journals"

ALEXANDER, SANDOW, PhD., "Fundamental Mechanics of Skeletal Muscle Contraction," *American Journal of Physical Medicine, Vol.* 31, *No.* 20, *April* 1952.

Although muscles have many functions, especially when they are in the intact body, their primary and most characteristic function is mechanical, e.g., the generation of force. The in vitro laboratory studies are analogous to function in vivo and our knowledge is drawn from this type of research and experiments.

It is self-evident that some cellular element of the muscle fibers is capable of contraction, and this material, whatever it is in detail, is the contractile component. First, this *contractile component* is capable of shortening and so developing force. All current work on the proteins extracted from muscle indicates that this component is composed of complex fibrous protein, actomyosin.

The second component is the elastic material. It is propounded by Hill, Buchthal and others that the "A" or anistropic bands embody the contractile components, while the "I" or isotropic bands contain the elastic units.

Third, the parallel elastic units mechanically shunt the 1st and 2nd components.

Registration of a muscle response of the active contractile units must be, somehow, distorted by the passive elastic behavior of the series and the parallel compenents. However, isolated muscle can be set-up to give an essentially normal response, for slight initial tension or stretch, is equal to the normal physiological activity of the muscles in the body. There is still much controversy over the detailed function of these muscle components, nonetheless Hill believes that the tension in a muscle at rest is due to the parallel component and that the contractile component is quite plastic and easily extensible.

Experiments proved that stretch applied very early in the contraction period caused the greatest increase, and the augmentation progressively decreased the later in the twitch the stretch was impressed. The work of Gasser, Hill and Brown indicate that; a common process seems to be involved concerned with setting up the active state very soon after excitation.

Recent research by Hill of the active state is centered around the quick-stretch experiments. He states that: "At the end of the latent period there is an abrupt change of state, the contractile component suddenly becoming capable of bearing a load equal to the maximum tension set-up in an isometric tetanus. The intensity of the active state produced by a shock is greatest at the start, is maintained for a time, and then declines as relaxation sets in." In other words, there is soon after excitation an abrupt build-up in the contractile components of a state of full tension comparable to that in a completely developed tetanus, which after a short period of maintenance, gradually decays to zero.

ACTIVATION

Activation is the reaction by which the resting contractile component is activated into the active state. Quite naturally heat is generated, however, Hill states: "Presumably, the heat of activation is a by-product of the reactions by which the sudden change of state from rest to activity is effected." Associated with this—activation heat—are an increase in both optical transmission and pH, a change in electric impedance, and the latent reaction, and the muscle undergoing this activation is sensitive to abrupt changes in hydrostatic pressure. Many other agents augment the twitch tension; a previous tetanus, quinine, bromide, nitrate, or iodide ions. Nonetheless only the surface in this field of knowledge has been reached and there is a wide field of research yet to be explored, especially as concerns activation.

Dynamics of the active state may be mathematically expressed by equation, which means that the greater the load, the smaller is the velocity with which the contractile component shortens.

Relaxation has in recent years drawn increasing attention. The question is does the muscle, i.e., the contractile component, relax because it actively develops a force that lengthens it, or is its relaxation passive? Ramsey, contends that relaxation is active. But Hill demonstrates that relaxation is passive. Further Hill has recently confirmed the view that when a muscle relaxes in either isotonic or isometric response, the heat produced is essentially equal to the mechanical energy that disappears.

Finally, it has been shown that the load-velocity relation holds for human muscle in the body as it does for isolated submammalian muscles. Such investigations have been made on normal individuals, but there is no reason why they cannot be performed on subjects suffering from various myopathies.

Marcus J. Stewart, M. D.

WARREN H. ASH, "Pain Mechanisms: A Review," *U. S. Armed Forces Medical Journal*, III:1257-1266, September, 1952.

Pain is not a protective mechanism per se, for it is not always connected with protective reflexes. Reaction to pain varies with race and individual and emotional factors. It may cause severe psychotic disorders and may affect any system of the body. The impulses which underlie any sensation represent a composite of impulses arising from more than one end organ. These impulses register centrally as a pattern of excitation and from it the sensations described as touch, pain and temperature are extracted. There is an exact relationship between the size of nerve fibers and the rate of conduction of nervous impulses. Fast pain has a pricking quality; slow pain a burning quality.

The pain threshold varies greatly in different persons and in the same person at different times. Pain is not a simple affair of an impulse traveling at a fixed rate along a nerve. It is the resultant of the conflict between a stimulus and the whole individual. Dissociation between pain perception and a reaction to pain is frequently found. Pain may be felt at the site of primary stimulation, it may be referred to other tissues supplied with the same or adjacent neutral segments, or it may result from secondary effects of the central spread of excitation in the effector structures, including painful contractions of skeletal muscles.

Therapy of pain involves abolition of the pain stimulus if at all feasible, interruption of the physiologic stimuli by nerve block and/or surgical resection, and the raising of the pain threshold. This is regularly accomplished with drugs which depress brain centers concerned with the reception of pain impulses. Lobotomy and topectomy are the most dramatic attempts to alter the reaction pattern to pain. Following topectomy, patients still have the pain, but it no longer "bothers" them.

PJR

EDWARD J. STIEGLITZ, M. D., "Chronic Illness and Senescence," *Journal of the American Medical Association*, 150:481-487, October 4, 1952.

The burdens of chronic disease are the source of greater tragedy than death from acute illness. In 1900 the three most important causes of death were diseases of infectious origin, but in 1951 the three major sources of death were noninfective, so-called degenerative diseases. The crippling handicaps left as sequelae of early acute illness are usually fixed and non-progressive; on the other hand the degenerative diseases are characteristically progressive, leading slowly to functional depreciation.

Modern medical education has been concerned chiefly with teaching physicians to identify and treat disease entities. It is only recently that attention has been focused on the individual.

The degenerative diseases include circulatory disorders, metabolic disorders, malignant tumors and arthritis. Of these the first two are preeminently important. These diseases begin asymptomatically and may be well advanced before symptoms are sufficiently unpleasant to cause the patient to seek relief. We must search for these disorders in apparently well people and not wait until they become obvious by overt lesions.

None of these disorders arises from a single cause and in no two instances of any one of these disorders is the etiology necessarily identical. Effective therapy is predicated on an understanding of etiology. Early detection and prompt institution of a therapeutic regimen are essential for therapeutic effectiveness. The objectives of the therapy are modified by the character of these disorders. Cure is usually impossible, for irreversible changes have occurred. Control is more frequently the objective. Partial rehabilitation and improvement are always possible and frequently dramatic.

Motivation for the efforts requisite for improvement is of primary importance. The hazard that martyrdom may be a source of pleasure must be kept in mind. Rehabilitation is impossible without effort on the part of the patient; effect will not be expended without adequate motivation supplied by the promise of greater happiness. There is a serious hazard in making the facilities or institutions devoted to the care and improvement of long term sickness too comfortable. Disability in

any form must not be a source of profit or satisfaction.

More and more the physician-patient relationship must become teacher-student relationship. The control, prevention and retardation of the degenerative diseases can be accomplished only by individual attention and guidance. Health is not an inherent right, but a privilege, and as such is inseparable from responsibility. The individual cannot escape responsibility for his own health in later maturity. It is the responsibility of the mature person to learn how to use his body and mind, seek a periodic inventory of his health status and to meticulously follow the advice of his physician. Improvement in the desire to help oneself reduces invalidism markedly. The things the patient can do, not the capabilities that have been lost, must be emphasized.

PJR

MILTON G. LEVINE AND HERMAN KABAT, "Cocontraction and Reciprocal Innervation in Voluntary Movement in Man," *Science*, 116:115-118, August 1, 1952.

The most commonly accepted thesis in regard to the interrelationship of antagonistic muscles states that the contraction of a muscle produces by proprioceptive action a central inhibitory effect on its antagonist. This was labeled reciprocal innervation by Sherrington, who worked with decerebrate or anaesthesized animals. He also pointed out that antagonists may be in contraction concurrently. This was attributed to double reciprocal innervation.

As early as 1925 Tilney and Pike concluded that under normal conditions they were unable to observe Sherrington's phenomena, and concluded that "muscular coordination depends primarily on the synchronous co-contractive relationship in the antagonist muscle groups."

The understanding of the role of cocontraction and/or reciprocal innervation is essential not only for understanding and treatment of paralysis associated with neuromuscular disease.

Only muscles acting on a single joint can be assumed to be true antagonists. Muscles acting on more than one joint may at times act as antagonists and at other times as synergists, or with some muscles a part may act as an antagonist and another part as a synergist. As an agonist goes into the final range of contraction, it begins to cause proprioceptive stimulation through stretch reflexes of the antagonist muscle. The resulting contraction of the antagonist then offers resistance to the final phase of movement of the agonist. The angle at which this occurs varies with the joint and the muscles involved.

It has been possible to demonstrate reciprocal innervation in the human in cases of spasticity, a condition which leads to a structural shortening of the muscles involved. When muscles antagonistic to those exhibiting spasticity were electrically stimulated, relaxation of the spastic muscles could be demonstrated. With the release of the affected muscle from spasticity, neuromuscular re-education was employed to facilitate the development of latent power to its maximum.

In normal voluntary movement in man there is at present insufficient evidence that reciprocal innervation plays the role which is assumed for it by most thinking on kinesiology. Cocontraction seems to be the rule rather than the exception.

PJR

ALFRED L. COPLEY, "Blood Clotting and Thrombosis," Office of Naval Research, *Research Reviews*, January, 1953, pp. 7-12

Blood is an organ in a fluid state circulating in a closed vescular system. Arrest of the escape of blood from this closed system is called hemostasis; blood clotting within the blood vessel is maintained by an anticoagulant called heparin. Bleeding from a wound is primarily terminated by an agglutination thrombus of platelets.

One of the chief causes of thrombosis has been ascribed to the slowing of blood flow. In recent years, following certain major operations, the patient is directed to move his legs or get up to counteract slowing of the flow of blood. Alterations in the physical character of the blood vessels, as in trauma or arteriosclerosis, might play a part in intravascular clotting. A possible addition source of clotting in cases of injury is the introduction of agents contained in the surrounding tissue.

So far, the prevention and therapy of thrombosis has emphasized the use of the anticoagulant heparin and of hemmorhagic agents like dicumarol. The use of dicumarol is not based on sound theoretical grounds.

PJR

ERWIN W. STRAUS, "The Upright Posture," *The Psychiatric Quarterly*, 26:529-561, October, 1952.

The upright posture distinguishes the human from other living creatures and at the same time nearly every detail of the body is shaped to meet its requirements. A biologically-oriented psychology must not forget that upright posture is an indispensable condition of man's self-preservation. An individual who is deprived of the ability to get up and keep himself upright depends for his survival on the aid of others.

There is a mutual interdependence between species and environment. Upright posture establishes a definite attitude toward the world. In getting up, man must overcome the forces of gravity. Upright posture always maintains its character of counteraction and requires activity and attention. Man must be awake to keep himself upright. With upright posture, an unescapable ambivalent penetrates all human behavior. We gain freedom of motion, but lose secure contact with the supporting ground. Dictators try to show by their rigid poses their imperturable and unshakable wills.

Neither the skelton nor the legs will stand of their own power. The legs have to be held in suspension by the counteraction of the trunk muscles and by the counter weight of the trunk. In human legs the bulk is high. The muscles extend with their tendons downward, but their contraction is upward. The old anatomical names of muscles and the traditional signification of their functions are often misleading. The biceps femoris and hamstring muscles bend the lower leg in one position only, while in another they extend the knee and the hip.

In upright posture the frontal exremities need no longer support and carry the body, but are freed for new tasks. The phobic patient feels more comfortable by carrying something in his hands. With upright posture the transverse diameter of the chest is increased. This, together with the sharp, angular curvature of the ribs, gives the human thorax its characteristic shape and permits development of the shoulder girdle into a kind of superstructure. This moves the root of the arm upward and markedly to the side. Small but significant changes ensue in the shape and position of the scapula and clavicle, in the origin and insertion of the shoulder muscles, in the configuration of the acromio-clavicular and sterno-clavicular joints. All this provides for a maximum flexibility of the arm.

One cannot pass over the remarkable difference in the manner of throwing of the two sexes. This appears in early childhood and seems biological, not acquired.

The highest skills are contingent upon the co-ordination of relatively independent parts. Clinical experience suggests the inferior parietal lobule (gyrus supramarginalis and angularis) as the highest level of integration.

Animals move in the direction of their digestive apparatus; man moves in the direction of his vision. With the development of the arm, the jaws are no longer needed for catching and carrying, for attacking and defending. The animal mandible, maxilla, teeth and jaw muscles recast into the human face. This is necessary for the development of speech.

The sensory organs cannot change without a corresponding change in the central nervous system. Upright posture permits the formation of the human skill and thereby of the human brain. It demands the development of the human nervous system. The basic traits of human experience and behavior are thus shown to be dependent upon human physique.

PJR

W. PROCTOR HARVEY and SAMUEL A. LEVINE, "Paroxysmal Ventricular Tachycardia Due to Emotion," *Journal of the American Medical Association*, 150:479-480, *October* 4, 1952.

The expression "frightened to death" is a common one. Experimental work on animals has shown that there is a nervous pathway from the hypothalamus to the heart that could bring forth various types of ventricular irregularities. It is conceivable that in a normal person a highly emotional situation such as severe fright could produce serious arrhythmias, even terminating in ventricular fibrillation and death. Such a chain of events could tie in with the sudden release of epinephrine with the resultant myocardial actions shown experimentally in animals. It is believed that such a mechanism, admittedly rare, is possible, and provides an interesting correlation with deaths from voodoo or hexing. In the latter, however, death may be a gradual process rather than a sudden occurrence.

PJR

You can't control the length of your life, but you can control its width and depth.

Editorials

STRENGTH FOR THE FUTURE

These are troubled times we live in. We live amid a bewildering confusion of wars abroad and dangers at home. We live in a day when thoughful people are asking, "What about the future? What does it hold for us Americans?"

I do not know the answer. But I think I know how we can find part of it, and that is by looking within ourselves.

Don't we sometimes forget the simple fact that we are Americans—and what that means?

We have done some remarkable things. We have built a nation out of a wilderness, and written a document of freedom that will last as long as the language. But I believe that our strength for the future lies not so much in what we have done as in what we are as people.

We Americans are people with certain principles. We have lived in troubled times before, and we have always lived by those same principles.

We are people with a deep love of home and family, and a respect for the dignity of our neighbors.

We believe in simple things like truth, honor, loyalty and kindness—and try to practice them.

We have a boundless capacity for doing the day's work, come what may.

We are resourceful people. We do not think any problem is impossible, and we have solved many difficult ones.

We are steadfast people. We have survived wars and depressions, good times and bad, and still kept our simple faith in the goodness of mankind.

We stand forever for freedom and fair play.

I do not believe that these qualities can be destroyed, or that we will let them deteriorate. Whatever the future may bring, they make us stalwart to meet it.

GEORGE PUTNAM, *Chairman*

"Taken from the 15th Annual Report of the George Putnam Fund of Boston, Massachusetts."

(This stimulating tribute to the American Democratic Way of Life, can well become a statement of goals for rehabilitation specialists, and to the great potential army of the disabled and handicapped, a creed with a challenge, to again face the future with confidence and determination.)

THE EDITORS

CULTURAL BACKGROUND OF PHYSICAL EDUCATION

In this stage of developing adequate educational standards for the physical educator who is to become an accepted member of the adjunctive therapies of modern medicine, his cultural background is frequently a topic of conversation, when therapists from the rehabilitation team meet. In typical democratic fashion opinions are freely expressed.

Many opinions simply make comparisons with too little concern about what is being compared. To compare, is "to examine the qualities of; in order to discover resemblances or differences." This is seldom done with the facts at hand.

"The enlightenment and discipline acquired by mental and moral training: refinement," is one of the dictionary definitions of culture. Another is: "the act of improving or developing by education and discipline." How well do physical educators or Corrective Therapists meet these standards?

The education of the physical educator takes place in an atmospher that offers many "invitations to learning." He is associated with student groups who are interested in many fields of learning.A large majority of physical education students are enrolled in Schools of Education in the larger Universities and Colleges, such as Columbia, New York University, Springfield College, Iowa State University, University of Illinois, Pepperdine College, University of Kentucky, Ithaca College, University of Alabama, University of Southern California, all now conducting approved graduate curricula. The student groups with whom they associate scholastically and socially, are interested in the professions. They are continually associated with students who are training to be teachers, doctors, lawyers, chemists, psychologists, to name but a few fields of learning. They assocate in lecture hall, dormitory, fraternity, the gymnasium and athletic field. They participate in the cultural life program—as the special life enrichment programs of glee club, concert, recital and special lecture series—are frequently called.

In training the physical educator, liberal arts and science courses are a pre-requisite. English, music, art, dramatics and pageantry, history, psychology, philosophy, biology, zoology and public speaking are required or "recommended" electives. All of his courses are selected to emphasize that he is to work in a field of education where he learns by doing. No matter what phase of physical education he will eventually select as his field of greatest interest, he is trained to become a *teacher* who will work with the whole individual: (a fellowman who is seeking happiness and security) and not just the learning of the physical skills that will enable him to become the best ball carrier on the squad.

The specialized training the student of physical education receives, in the field of his major interest, requires a thorough understanding of the structure of the human body; the way these structures function

and the knowledge of what constitutes good body mechanics. He must know the physiological effects of exercise. If he decides to specialize in the field of rehabilitation he will be expected to understand physical reconditioning or what constitutes physical and mental fitness. He must be acquainted with tests and measurements, so that he can evaluate the results of his teaching or find out where to begin. If he finds interest and develops competence and is gifted with the quality of patience necessary for the restoration and health maintenance phase of physical education, he needs an additional understanding of the pathology of the diseases where active exercise has always been an effective modality of restorative medicine. He will need to better understand the anatomy and physiology of the nervous system as it functions in the types of disabilities that affect the central and peripheral nerves. He will need further study of the fundamental facts of the pathologies related to the various medical and orthopedic conditions requiring surgery and instruction in the exercise techniques applicable both pre-and-post operatively. He will also need an understanding of the basic principles of psychiatry.

In summary, he will need in addition to this undergraduate cultural background and specialization, an additional year of graduate study if he is to be prepared to contribute his full share in the Physical Medicine and Rehabilitation Service Team's effort to restore and resocialize the increasing number of the disabled and handicapped, found in every community, as a result of the terrifying speed of man's progress towards civilization, at the present time.

THE SIGNIFICANCE OF THE 1953 MEMBERSHIP DRIVE

"United we stand, divided we fall." The wisdom of this philosophy of dynamic, democratic relationships has been well known for years to all organizations of men and women dedicated to the rehabilitation of the disabled and handicapped.

The full significance of the association's 1953 membership drive has been misunderstod by those who have failed to meet the challenge. If our campaign motto, "See ten to get two," had been adopted by all active members concerned, most of us would have met the challenge of "Every member-get five" in this final stage of the drive.

It is true that our possibilities of enlisting new active members are limited. However, have you exhausted all of these possibilities? How about the well-qualified instructor at the YMCA who often does corrective work under the guidance of the physician? Have you contacted the person who teaches corrective physical education in the local public school system? Have you a friend who is doing physical reconditioning in the armed forces? Most of these people would be glad to hear of our association.

Since January 15 of this year our active membership has shown a gain of 7%. In the same period of time our associate membership has doubled. Many doctors, nurses, social service workers, and various technicians have enthusiastically joined our group. This is indeed gratifying, but we can do even better. The greater percentage of these new memberships have been coming from just a few areas. Why have we not heard from you people in these other areas? Two live-wire members in very small stations are among the leaders so far in this drive. I repeat, "HAVE YOU MET THE CHALLENGE."

Lethargy and inertia have been the undoing of many organizations, both old and new. These two conditions are like a cancer which eats away unrelentingly at our inner core. We are a young organization, and to survive we must grow, remain alert, and be ever active. To be lulled into a false sense of security and coast on our laurels would be a serious mistake. Forces are continually at work to unseat us. This unique chauvinism on the part of those who would like to deter us in this pursuit must be met by our unified determination to do our job the best and to let our deeds speak for themselves. LET'S ALL GET BEHIND THE MEMBERSHIP DRIVE AND MAKE THE YEAR 1953 THE BIGGEST IN THE SEVEN YEAR HISTORY OF OUR ASSOCIATION!

S.H.W.

The Fifty Three Membership Drive Is Gaining Momentum

Membership Applications
are Arriving at the Office of the Secretary
at the Rate of Four a Day

Have your four Associate Memberships been sent in yet?

(See ten to get two)

THERE IS STRENGTH IN NUMBERS. REMEMBER THE CHALLENGE.

"EVERY MEMBER—GET FIVE"

Chapter Activities

MIDDLE ATLANTIC CHAPTER

President William E. Cully writes: "Our Chapter has been holding bi-monthly meetings at different hospitals and Area Offices in the Middle Atlantic Area. Our membership includes corrective therapists and rehabilitation personnel as far south as Roanoke, Va., as far west as Pittsburgh, Pa., and as far north as Wilkes-Barre, Pa.

Our meeting at the Sidney Hillman, Medical Center, Philadelphia, Pa., started with an inspection of the Department of Physical Medicine. This clinic is controlled by Union and Management. Corrective Therapists are a part of the staff.

Speakers of the evening were: Dr. Psaki, Chief, Physical Medicine Rehabilitation, Va Regional Office, Philadelphia, Pa., gave the welcoming remarks and told about the VA Out-patient Physical Medicine Clinic. He was followed by Dr. Herbert Shapiro, Asst. Professor, Graduate School of Medicine in charge of Physiological Research, University of Pennsylvania who gave a very informative lecture on "Muscle Function." A question period followed. The next speaker was Dr. John Ealy, V.A. Orthopedic Consultant, who presented an interesting and informative talk on "The Suction Socket Prosthesis." The program concluded with a demonstration of the application of therapeutic exercise in an out-patient corrective therapy gymnasium and a short business meeting.

WESTERN NEW YORK STATE CHAPTER

On February 27, 1953 the Western New York Area Chapter of the Association for Physical and Mental Rehabilitation presented an Educational Clinical Session at the American Legion Home, Canadaigua, New York. Mr. Louis E. Guignard, Area Chairman, welcomed the association members and guests. The following papers were presented: "The Total Activity Program," by Dr. Louis V. Lopez, M. D. Manager, Veterans Hospital, Canadaigua, N. Y.; "The Physical Medicine Rehabilitation Service," by Dr. Frederick S. Ranno, M.D. Acting Chief, P.M.R.S.; "The Problems of Mental Illness and the Post Lobotomy Treatment Program," by Dr. George Rosenberg, M.D.; "The Pre-Frontal Lobotomy" (Historical and Surgical Aspects) by Dr. C. T. Liu, M.D., Surgical Service. At the completion of the many talks a discussion period followed. The discussion panel consisted of: C. T. Liu, M.D.; Louis V. Lopez, M.D.; Frederick S. Ranno, M.D.; George Rosenberg, M.D. and Warren N. Landon, President at the New York State Chapter of the A.P.M.R.

EASTERN NEW YORK STATE CHAPTER

At the meeting of the chapter on December 29, 1952, the results of the elections were as follows: President, Mrs. Eleanor B. Stone; 1st Vice President, Murray Appel; 2nd Vice President, Stanley Goodman; Secretary-Treasurer, David Ser; Recording Secretary, Theresa Lanna; Director of Publications, Julius Levin.

On January 16, 1953, the Executive Board met at the residence of Miss Theresa Lanna, Recording Secretary, to discuss plans for the coming year. One item which was discussed in detail was the drafting of a constitution. The problem was referred to a committee for further study. Dr. Jay Namen has been appointed as Chief, P.M.R.S. at the VA Hospital, Lyons, New Jersey. Dr. Namen was formerly Chief, P.M.R.S. at the VAH, Lexington, Kentucky.

The P.M.R.S. at the VAH, Lyons, New Jersey have appointed two therapists in the Corrective Therapy Section. They are: Joseph H. Donohue of Greenport, L. I., B.S. and M.A. in Physical Education and Rehabilitation from Springfield College and Normand L. La Fleur of Raritan, New Jersey, B.S. in Physical Education and Health, Arnold College, Connecticut, M.A. in Corrective Physical Education, New York University.

SOUTHERN CALIFORNIA CHAPTER

At a meeting attended by over 65 members and guests of the Southern California Chapter, held at the University of California in January, Charles Leroy Lowman, M.D. gave a most stimulating presentation of the "Do's and Don'ts for the Corrective Therapist, in Schools and Hospitals." The discussion which followed was participated in by many of the outstanding leaders in the field of physical medicine and rehabilitation. Among those well known as contributors were: Clement Troensgaard, M.D., formally at the Birmingham Veterans Hospital; Harvey Billig, M.D. Chief of Staff of the Billig Clinic; Roy H. Nyquist, M.D., Chief, Physical Medicine & Rehabilitation, VA Hospital, Long Beach, California; Professor Laurence E. Morehouse, Ph.D. physiologist of the University of Southern California; Miss Evelyn Lowendahl of George Pepperdine College, co-author of "Mobilization of the Human Body;" and many other prominent people in the profession.

An interesting and informative program has been planned for each month this year. We are glad to hear from the Chapter once again.

Book Reviews

THERAPEUTIC USE OF POOLS AND TANKS: By Charles L. Lowman, M.D., D.Sc. F.A.C.S., F.A.A.P.E., Director of Education and Rehabilitation, Orthopedic Hospital, and Susan G. Roen, Orthopedic Hospital, Los Angeles, California. $3.00, 90 pages with 196 Diagramatic Illustrations. W. B. Saunders Co., 1952 Philadelphia.

This is the first comprehensive book written and especially designed for therapists on the subject of hydrogymnastics. The authors have presented a diagramatic and functional presentation of the use of therapeutic exercises in the pool or tank. The material covers all aspects of the subject in thorough fashion, with the expert guidance of Dr. Lowman, a pioneer in the development of "underwater gymnastic exercises." All personnel engaged in this phase of therapy should find this text indispensablew for reference or review.

KINESIOLOGY: THE MECHANICAL AND ANATOMIC FUNDAMENTALS OF HUMAN MOTION. By Katherine F. Wells, Ph.D., Associate Professor, Graduate Department of Hygiene and Physical Education, Wellesley College. $4.75, 478 pages with 224 Illustrations. W. B. Saunders Co., Philadelphia.

This book will serve ideally as a textbook or a practical reference source in a standard kinesiology course or in a service training program. The book is divided into four parts; the first deals with the basic mechanics of human motion; the second with the action of joints and muscles; the third with major types of motor skills; and the fourth with the applications of kinesiology to physical education activities and to the techniques of "daily life" skills. A very interesting text that should be of interest to students and therapists in the field of human motion.

THE TREATMENT OF INJURIES TO THE NERVOUS SYSTEM—Donald Munro, M.D., F.A.C.S., W. B. Saunders Co., Philadelphia, 1952; $7.50, 284 pp., 47 illustrations, 9 tables.

This book has been written primarily to acquaint the general surgeon and practitioner with up-to-date procedures in neurologic surgery and sugsequent rehabilitational measures. It covers a wide range of injuries to the central nervous system, the cranial nerves, the spinal roots, the peripheral nervous system, and the automatic nervous system; indicates possible complications and methods to be used in such incidents; and outlines the follow-up hospital care which attends the patient's progress.

In addition to the major presentation of surgical and therapeutic techniques, it presents the total approach to rehabilitation as visualized and practiced at Boston City Hospital. It show, very graphically, how all the hospital personnel cooperate in producing a single goal—maximum rehabilitation.

The text is interspersed with pertinent bits of philosophy which should govern the actions of all personnel who come in contact with the patient—from the surgeons to the ward attendants. Moreover, the ideas presented are clinically tested and statistically proven.

The chapter on "The Cost of Medical Care in Paraplegia and How It may be Modified" by Stanwood L. Hanson, Ass't Vice President, Liberty Mutual Insurance Co., conclusively proves that in cold financial savings the benefits of a rehabilitation program, as outlined by Dr. Munro, are enormous—as compared to insurance costs in cases where rehabilitation was not undertaken.

The final chapter concisely summarizes the author's viewpoint in regard to rehabilitation.

KD

News and Comments

CLINICAL SESSION FOR THE WASHINGTON ANNUAL MEETING

The broad field of Corrective Therapy in Federal, State and Civilian hospitals, will be covered by outstanding representatives of the various medical disciplines at the Washington Conference of our Association at the World Famous, Mayflower Hotel, July 20-24, 1953.

The program is gradually taking shape with such leaders as Dr. Winthrop M. Phelps, and Dr. Donald Munro, serving as leaders of special panels. The program will follow a central rehabilitation theme organized along the general lines of the Milwaukee convention which featured symposia on current medical subjects, in which Corrective Therapy is directly or indirectly concerned. Dr. Harvey Tomkins is assisting the Committee in the arrangement of Corrective Therapy demonstrations in the specialized areas of psychiatry. Dr. A. B. C. Knudson is giving the committee the benefit of his mature counsel and assistance in arranging demonstrations in the applications of Corrective Therapy techniques in the GM&S Hospitals. These special demonstrations planned for nearby hospitals and medical schools, will provide an important innovation to the conventional medical programs of professional papers.

The Program Committee is receiving valuable suggestions and assistance from the Corrective Therapists in the field and will be able to utilize this aid in the organization of a representative program. The 1953 Clinical Session promises to be a real contribution towards the continued professional advancement of Corrective Therapy.

NYU OFFERS GRADUATE STUDY

For the training of those concerned with corrective activities of the physically handicapped in schools, and for the training of corrective therapists for employment in veteran's as well as public and private hospitals, courses are offered to provide the knowledge and technical skills of this specialized area. Other courses provide insight into the social, emotional, and psychological problems of the handicapped. A field experience in hospital or school is a required part of the program.

The curriculum is offered on the graduate level in the master's, sixth-year, and doctoral programs (Ed.D. and Ph.D). Candidates at the master's level must hold a physical education baccalaureate degree. Sixth-year and doctoral candidates must have majored in physical education at either the undergraduate or graduate level.

Positions are available to graduates of this curriculum in various parts of the country.

More and more schools are instituting programs in corrective activities and are demanding specifically trained leadership. With hospitals initiating and expanding programs of physical medicine and rehabilitation, there is a growing need for corrective therapists to administer rehabilitation activities under medical direction.

For further information write: Associate Professor Raymond A. Weiss, School of Education, New York University, Washington Square, New York 3. N. Y., or telephone SPring 7-2000, Extension 416.

FROM "THE REHAB COUNSELOR"

The Vocational Rehabilitation Division of the Department of Education, 325 Seventh Avenue North, Nashville, Tennessee has established a new information service, that should be helpful in stimulating community consciousness to their rehabilitation and resocialization problems.

1. ANCIENT WORLD — *Extermination*

Spartans and many other people of the ancient world killed their physically imperfect citizens. This was done because of superstition and the pressing necessity of group survival. The physically disabled person was a risk to the safety and economic well being of the group.

2. MIDDLE AGES — *Ridicule*

Although the physically disabled were allowed to live during the Middle Ages, they were objects of ridicule and jesting. The court jesters of medieval society were often the deformed and the mentally weak.

3. RENAISSANCE — *Asylum*

Awareness of the public problem that the physically disabled presented was recognized to the extent of public provision of relief and public and private maintenance of asylums. A physical deformity was often confused with mental illness.

4. 18TH CENTURY — *Physical and Custodial Care*

Earliest organized social interest in the welfare of the disabled came in the 18th Century in the form of physical and custodial care. The first institution to devote its entire resources to the physical care of the disabled was established in Orbe, Switzerland, in 1780.

5. 19TH CENTURY — *Education*

Not until the 19th Century was any effort made to educate the physically handicapped. The first home to offer both care and educational facilities for the disabled was opened in Munich in 1820. After this start, public and private schools for handicapped children sprang up in Europe and the United States.

6. 20TH CENTURY — *Total Rehabilitation*

The realization that care and education were not enough, that society must prepare the disabled to become self-supporting, resulted in establishment of the State-Federal Vocational Rehabilitation program in 1920. Since then, thousands of disabled persons have become useful, productive citizens of their community. The latest step in the treatment of the disabled has been the establishment of Rehabilitation Centers for the severely disabled.

(The editors are indebted to Mr. Paul V. Hicks, State Rehabilitation Counselor, with an office in VA MTG Kennedy Hospital, Memphis, Tenn., for calling our attention to this brief history of the treatment of the disabled citizen, since the beginning of written history.)

EVIDENCE OF NEED FOR REHABILITATION

Major General Lewis B. Hershey, writing— "the inside story on REJECTION RATES, in the Journal of the American Association for Health, Physical Education and Recreation, says, "I believe that the figures showing the number, the percentage, and the principle reasons for rejections of men for service in the Armed Forces which Selective Service has compiled throughout the years have served a very definite purpose in awakening both medical men and laymen to some alarming facts as to the state of our health and I believe that they constitute a challenge for us to do something about it besides making conversation." He also believes—"that one of the most serious mistakes we can possibly make is to use these high rejection rates—which served to reject more than one registrant in three between the age of 18 and 36 in World War II and were serving to reject as many or more men, between the ages of 18½ and 26 during the past year—to include that our health is in a sad and sorry state of decline and that they show one thing and one thing only—namely, that we must do something, almost anything to make ourselves healthy again." Here again, he feels that the Selective Service Law and the interpretation of it by the examiners are together creating a manpower problem. He believes it is serious, when IV-F deferments result in our man power pool being drained as it is when the IV-F's constitute our largest deferred group. Unless and until deferments are reduced, the rehabilitation and resocilization of the disabled and handicapped, becomes one of the challenges to those working in the field of rehabilitation of tremendous importance and significance in our national defense effort. Corrective Therapists should be conscious of this and continue to supply the man-power pool with the resocialized and rehabilitated.

CONCERNING VOCATIONAL REHABILITATION

A pamphlet containing "Selected Sources of Free and Inexpensive Information Concerning Vocational Rehabilitation" has just been received. This is a bibliography suitable for use in Educational Institutions and the Lay Public. It is the work of Lynn L. Ralya, Ph.D., Educational and Vocational Counselor, and Lillian L. Ralya, Ph.D., Counseling and Testing Services, University of California Extension, Los Angeles. In addition to concerning itself with the field of Vocational Rehabilitation, this bibliography contains additional bibliographies on: The Aging; The Alcoholic; The Amputees; The Blind and Visually Impaired; The Cardiac and the Circulatory Handicapped; The Cerebral Palsied; The Epileptic; The Hearing Handicapped; The Infantile Handicapped; The Mentally Retarded; The Emotionally Disturbed and the Tuberculous. The Selection of these publications has been based upon familiarity with the literature that is available to counselors of both the Veteran and Non-Veteran, and the authors used the following criteria;

(a) validity and recency of information, (b) coverage of basic principles and facts, (c) probable reader appeal, (d) availability and cost and (e) suitableness for beginning readers in the field. Copies may be secured for 25c by addressing the authors at: 907 Fourteenth Street, Santa Monica, California.

GETS PROMOTION

Hyman S. Wettstein, 1960 E. Tremont Ave., The Bronx, New York, has been promoted to assistant Professor of Health and Physical Education at Yeshiva University, Amsterdam Ave. & 186th St. New York. Mr. Wettstein is a specialist in the field of corrective physical education and has been associated with Yeshiva University since 1939. Among the positions he has held at the university include those of Athletic Director and varsity basketball coach. He has been Assistant Chief of Corrective Therapy at the Bronx Veterans Hospital at Kingsbridge Rd. A graduate of New York University from which he holds a B.S and M.A. degree, and is presently a candidate for his Ph.D.

Mr. Wettstein is president of the New York Chapter of the Association of Physical and Mental Rehabilitation. He is a veteran of World War II, a member of the Executive Board of the Disabled American Veterans, and Commander of the Doctor Jacob Byer Memorial Post of the AMVETS.

Member of the Association for Physical and Mental Rehabilitation wish Hyman the best of luck in his new assignment.

EVEREST AND JENNINGS OPEN MIDWEST WAREHOUSE

Everest and Jennings, pioneer manufacturers of folding metal wheel chairs, opened a new warehouse on February 10, 1953, at the Currier-Lee Warehouses, Inc., 427-473 West Erie Street, Chicago 10, Illinois. This new service to dealers marks an extension of the dealer accommodation policy established by Everest and Jennings with the opening of new warehouses in New York City and Birmingham, Alabama, as well as Los Angeles, California.

For the convenience of authorized Everest and Jennings dealers, 15 different items in the Everest and Jennings line and 17 different items in the Hollywood line will be handled through the new warehouse. These include the popular E & J STANDARD UNIVERSAL wheel chair; the HOLLYWOOD HOSPITAL, a light-weight, easily-controlled chair that folds for compact storage; the TINY TOT, a perfect miniature of the STANDARD UNIVERSAL, for children up to seven years of age; and the HOLLYWOOD CONVERTIBLE wheel chair, which is easily changed from rear-to front-wheel propulsion or to a chair with all 5-inch casters.

Further information regarding the new supply point, as well as the items carried, can be obtained from the main Everest and Jennings office at 761 North Highland Avenue, Los Angeles, California.

MEETINGS OF PROFESSIONAL INTEREST

March 30, 31 April 1, 2	**National Rehabilitation Association's Regional Meeting, Hotel Peabody, Memphis, Tennessee**
April 6-10	**Association for Childhood Education Meeting, Denver, Colorado**
April 8-12	**The American Hear' Association Annual Meeting, Atlantic City, New Jersey**
April 17-18	**Central States Speech Association, Chicago, Illinois. J. G. Drushal, College of Wooster, Ohio, Chairman**
April 27	**Texas Neuropsychiatric Association and Texas Orthopedic Association, Houston, Texas**
May 4-9	**American Psychiatric Association, Los Angeles, California**
June 1-5	**American Medical Association Annual Convention, New York City, New York**
July 20-24	**Annual National Convention of the Association for Physical and Mental Rehabilitation, Mayflower Hotel, Washington, D.C. Dr. John E. Davis and Mr. Tom Zwierlein, Co-chairman, Veterans Administration, Central Office, Washington 25, D. C.**

(E. A. GROSS, Continued from Page 38)

cise, kinesiology, and corrective physical education. The median number of corrective physical education periods per week of the instructors in the 20 schools which had specially scheduled corrective physical education classes was 25. The median number of overall periods per week of the corrective physical education teachers in the 220 schools with corrective physical education provisions was 27. The median number of years of corrective physical education teaching experience was five for all of the corrective physical education teachers. The two most frequently mentioned duties other than classroom teaching of corrective physical education instructors were coaching and intramurals.

GENERAL CONCLUSIONS

These conclusions have been reached in an effort to present an over-all view of the corrective physical education picture in the public secondary schools of Pennsylvania.

1. More than 75 per cent of the public secondary schools of Pennsylvania are not providing their atypical students with physical education opportunities. The Pennsylvania Department of Public Instruction, the professional societies interested in the welfare of atypical children, and many outstanding leaders in the field of education advocate the providing of a physical education program for atypical students comparable in scope to that provided for normal students.
2. The size of the schools evidently has some but not too much influence on whether a school will or will not offer a corrective physical education program. More than 60 per cent of the schools in the large (between 500 and 999 students) and very large (more than 1,000 students) enrollment classes do not offer corrective physical education programs to their atypical students.
3. Many reasons were given by the secondary schools of all sizes for not offering corrective physical education programs. Some secondary schools in every enrollment category were offering some type of corrective program to their atypical boys. Possibly, meeting the needs of students with handicapping conditions was not sufficiently important to some physical education instructors.
4. There appeared to be some difference among the classes of schools with respect to the corrective physical education practices under examination. As enrollment increased, a larger percentage of the public secondary schools in Pennsylvania used certain organizational and administrative procedures, used a larger variety of program procedures, had more facilities and more of a variety of equipment, and had teachers who had better professional preparation and who were more experienced.

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CERTIFICATION
(No confirmation)

HISTORIAN
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*Note: The **Chairman and Coordinator of Professional Committees** will assume responsibility for those committees defined as under his jurisdiction. He will exercise such authority as is vested in the office by the President and indicated in the constitution of the Association. The **Administrative Assistant and Coordinator of Administrative Committees** will exercise supervisory control over those committees listed as under his jurisdiction. The authority vested in the president's office is being delegated during his term of office to the Administrative Assistant. On matters of mutual concern between the Chairman and Coordinator and the Administrative Assistant a joint approach will be followed in which an integrated effort will be initiated, insuring complete harmony and a coordinated effort. The President will coordinate the relationship existing between the two newly created posts, and has final say on all matters relative to the welfare of the Association.

Greetings . . .

FROM CONVENTION HEADQUARTERS

Association for Physical and Mental Rehabilitation

Annual Clinical and Scientific Conference

7th Annual Convention

Mayflower Hotel, Washington, D. C. **July 20 through 24, 1953**

Washington is indeed proud to be the host city to the 1953 convention of the Association and will have a most hearty welcome for every visitor. There isn't another city in the United States that the slogan, "BRING THE FAMILY TOO!" would fit as appropriately as Washington, our nation's capital. Our meeting dates were chosen especially so that you and your families could combine convention and vacation.

If you plan to travel by train, plane or bus, Washington is serviced by major rail, air and bus lines and if you are driving—all good roads lead to Washington.

Your stay can't help but be pleasurable in the luxurious atmosphere of the Mayflower Hotel, convention headquarters. Completely air-conditioned and conveniently located on Connecticut Avenue, just outside of the downtown district, the Mayflower will offer every visitor the finest in service and at reasonable rates which have been especially arranged for our visitors.

The convention hotel is adjacent to the White House and other Government Buildings. Special arrangements are being made so that guided tours will be available to our delegates and their families.

For your dining pleasure while in Washington you will find that there are ample restaurants which are excellent and offer cosmopolitan menus to suit a variety of tastes and budgets. Many of the city's more noted restaurants provide dancing and entertainment after dark.

Legitimate theaters, movie houses and sports arenas offer the best in entertainment the year 'round.

The convention program is rapidly taking shape and a tentative listing of the topics and the participants will appear in subsequent issues of the Journal and the Newsletter. The general pattern of presentation—the panel discussion, which was so successful at Milwaukee last year, will again be utilized. A different plan for conducting the business of the Association will be followed this year. The Executive Board will meet Saturday and Sunday prior to the opening of the convention; the Representative Assembly will meet all day Monday, July 20th. and the General Assembly meeting will be held on Monday night. The Convention Committee and your President feel that this innovation will be well received.

Several special events are being planned both in the scientific and entertainment vein. The annual banquet will be held Thursday night, July 23rd at which an outstanding physician will speak and the John Eisele Davis Award will be presented.

The commercial exhibits will be located immediately adjacent to the main assembly room and a most representative group of manufacturers of rehabilitation equipment will be in attendance.

This is YOUR convention—your officers and the Convention Committee can only make the arrangements for a meeting of this type but the success of the convention depends upon each member of the Association making every effort to attend. WE WILL BE EXPECTING YOU—REMEMBER—D. C. IN '53.

Dr. John Eiesle Davis
Tom Zweirlein
Convention Chairmen

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Name_____ Proposed by_____

Address_____ Date_____

Position_____ Location_____

Education_____ Major_____ Degrees_____
(college) (A major in Physical Education is required)

Training and Experience in Physical Rehabilitation_____
(One year under the direct supervision of a Medical Doctor is required)

_____

_____

Signature of Applicant_____

APPLICATION FOR ASSOCIATE MEMBERSHIP

Association for Physical and Mental Rehabilitation
(Mail to Stanley H. Wertz, 1433 Railton Road, Memphis, Tennessee)

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Address_____

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